

# Medical

# TIMES

THE JOURNAL OF GENERAL PRACTICE

Control of Pain in Rectal Carcinoma

Medicine's Stepchildren

The Ambulatory Schizophrenic

Prostato-Vesicular Backache

Corticosteroid-Salicylate  
in General Practice

Spasms of Smooth and  
Striated Musculature

Digitalis Glycosides

Quo Vadis O Homo Sapiens!

Hiatus Hernia

Mental Deficiency (Refresher)

Forceps Deliveries

Suicide, Euthanasia and the Law

Clinico-Pathological Conference

External Hemorrhoids (Office Surgery)

Editorials

Hospital Centers

The Pharmacist on Your Team

Investments

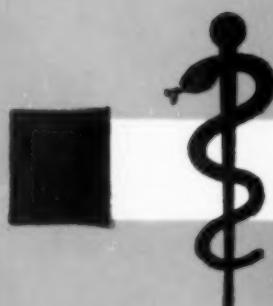
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Opinions expressed in articles are those of the authors and do not necessarily reflect the opinion of the editors or the Journal.

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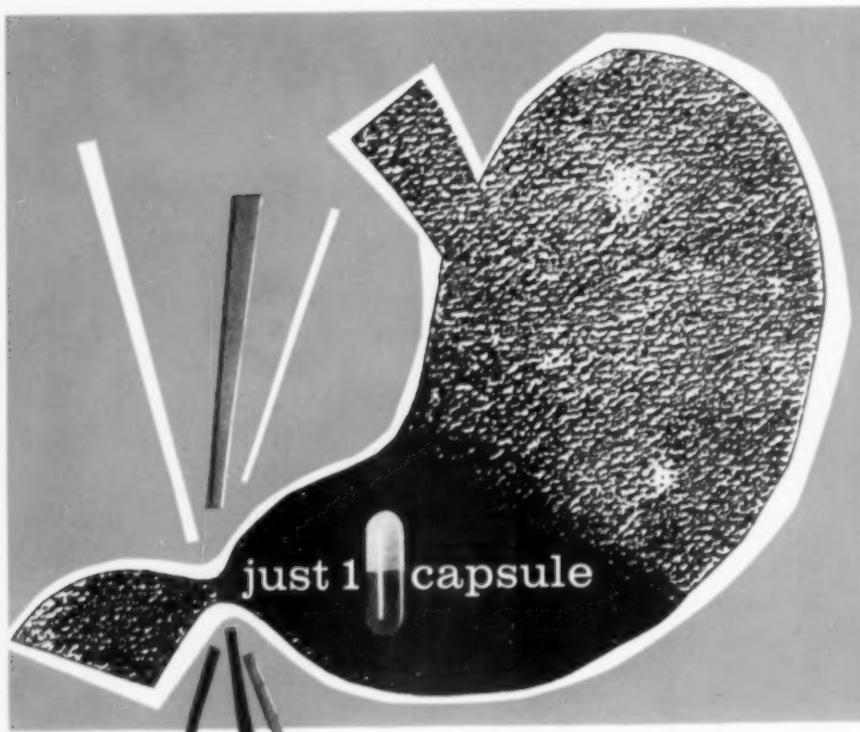


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<sup>1</sup> Carey, L. S.: *Delaware M. J.* #229 (Oct.) 1949.

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C I B A  
SUMMIT, N. J.



## Off the Record . . .

### True Stories From Our Readers

Each incident described has been contributed by one of our readers. Contributions describing actual and unusual happenings in your practice are welcome. For obvious reasons only your initials will be published. An imported German apothecary jar will be sent in appreciation for each accepted contribution.

#### Who? What?

My technician was discussing early pre-operative hospital procedure with the mother of a five-year-old daughter who was scheduled for a tonsillectomy. The mother, a very prim and proper school teacher, was greatly concerned about the child's fear and anxiety on the way to surgery.

In her most professional, yet understanding manner, my assistant assured her that the patient would be adequately "seduced" before leaving her room. Needless to say, making the verbal correction, "adequately sedated," had little effect in bringing back the complete composure of the mother or my technician.

G.H.M., M.D.  
Minneapolis, Minn.

#### Small, Medium or Large?

While doing a prenatal pelvic examination on a sweet, demure primipara, I was concerned with the narrowness of the pelvic outlet. Wondering how big a baby we could expect (she was just a little thing), I asked her if her husband was very big.

(Vol. 85, No. 6) June 1957

Looking up at her I noticed she was holding her hands about so far apart, and she said, "I don't know if it's considered very big or not; you see I haven't seen very many."

I said nothing hoping she wouldn't suddenly realize what I really meant and compound our embarrassment.

F.E.C., M.D.  
Detroit, Mich.

#### Transfusion?

A patient greeted me with, "Doctor, will you have your nurse check my blood? I want to know if I have enough strength to get home again."

V.E.Q., M.D.  
Brainerd, Minn.

#### Logic!

*Patient* (After laboring for a few hours): "Am I making any progress at all, Doctor?"

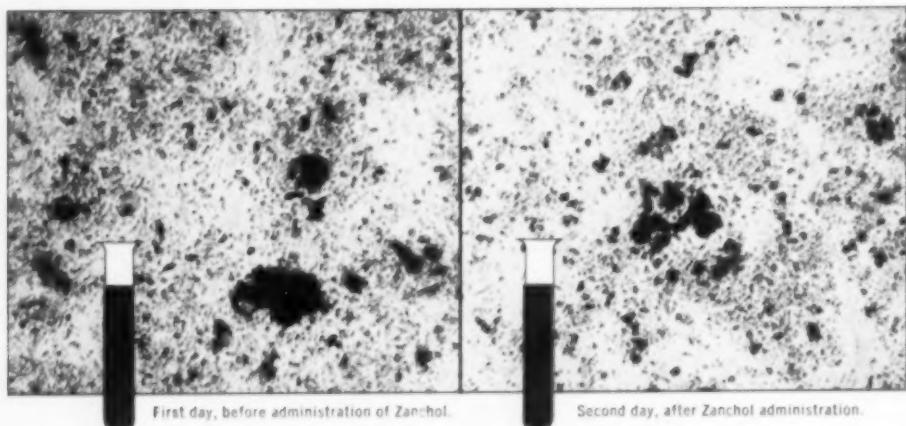
*Doctor*: "Oh, Yes! The baby's head is moving down a little with each pain."

*Patient*: "Gee, I hope it isn't a long baby."

Anonymous

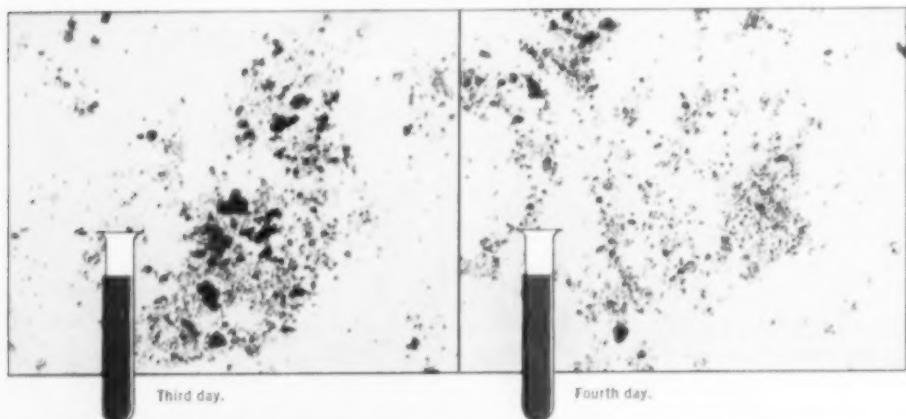
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First day, before administration of Zanchole.

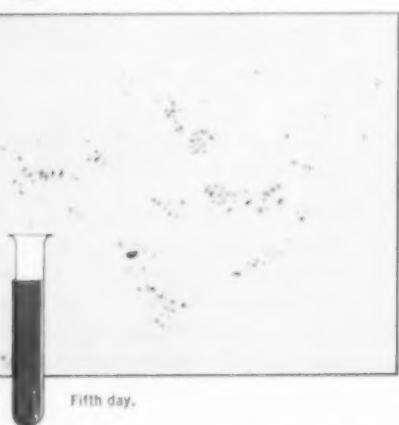
Second day, after Zanchole administration.



Third day.

Fourth day.

**photomicrographs<sup>1</sup>**  
showing daily changes in  
sediment from centrifuged bile  
taken from T-tube drainage in  
a postcholecystectomized patient.



Fifth day.

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**Dosage:** Dosage will vary with each patient's requirement. However, most patients will respond satisfactorily to a daily dosage of three to four tablets with meals and at bedtime.

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I. McGowan, J. M.: Clinical Significance of Changes in Common Duct Bile Resulting From a New Synthetic Choleretic, *Surg., Gynec. & Obst.* 103:163 (Aug.) 1956.

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C I B A

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**Helpful!**

An elderly, 65-year-old female patient of mine with senile dementia and confined to her bed with a cast for a fractured tibia gave rise to the following situation:

A younger, middle-aged woman had just been admitted to the next bed for surgery the following morning. She was being given a pre-operative enema by a nurse when, suddenly, she cried out: "I can't hold it any longer."

My dementia patient sang out: "I'll hold it for you, dearie."

S. O., M.D.  
Middleboro, Mass.

**Unfinished Business**

Patients of mine adopted a boy and three years later adopted a little girl. Shortly after the little girl's arrival, the boy was watching her get a bath. He was all eyes; all at once he let out a scream and said, "Oh Mama, she ain't finished."

Anonymous

**"Initial" Diagnosis**

I had completed an allergy survey, which consisted of 20 scratch and 3 intradermal tests, on a ten-year old boy whose mother brought him to my office for bronchial asthma.

I turned to the mother, who looked at me in a doubting manner, and I explained that I had a good idea, from the tests and history, of the cause of the boy's asthma. After explaining in detail the importance of the avoidance of the causative allergens, I handed her a prescription which contained next to

my name the initials, M.D., F.A.C.A. (Fellow of the American College of Allergists).

The boy suddenly exclaimed, "Mother, this paper (prescription) says that this doctor is a faker (F.A.C.A.). The last doctor did 200 tests, and he didn't help me at all."

P. E. Z., M.D.  
Lawrence, Mass.

**Recommendation—High Salt Diet**

During my son's senior medical year he and some other students and interns were discussing the case of a female patient. When my son Bill's turn came to give his version of the diagnosis and treatment, he said, "Fill her full of pickles and send her home. She's an old crock."

My son was somewhat abashed, however, when the case was discussed by the professors, because one of them said, "Perhaps we should try Bill's remedy, fill her full of pickles and send her home." The professor had overheard the discussion.

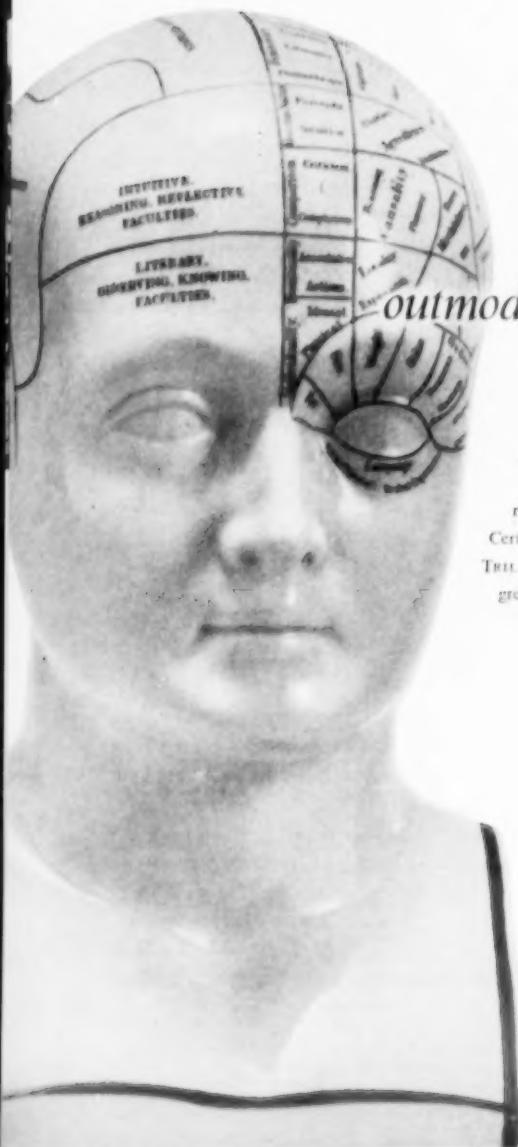
B. B., M.D.  
Hazel Park, Mich.

**Swell Smell?**

I asked my elderly, hypertensive, somewhat hard-of-hearing patient if her feet had swelled recently. She replied, "Yes, now that you mention it, my husband complains of it frequently when we are in bed." I replied, "How can he see them under the covers?" The retort—"You don't have to see to smell!"

M. E., M.D.  
Cambridge, Mass.

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## *outmoding older concepts*

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age-old methods of merely sedating the anxious or of  
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NEW (pronounced Tril-a-fon) perphenazine

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without irritation*

*in superficial mycotic infections  
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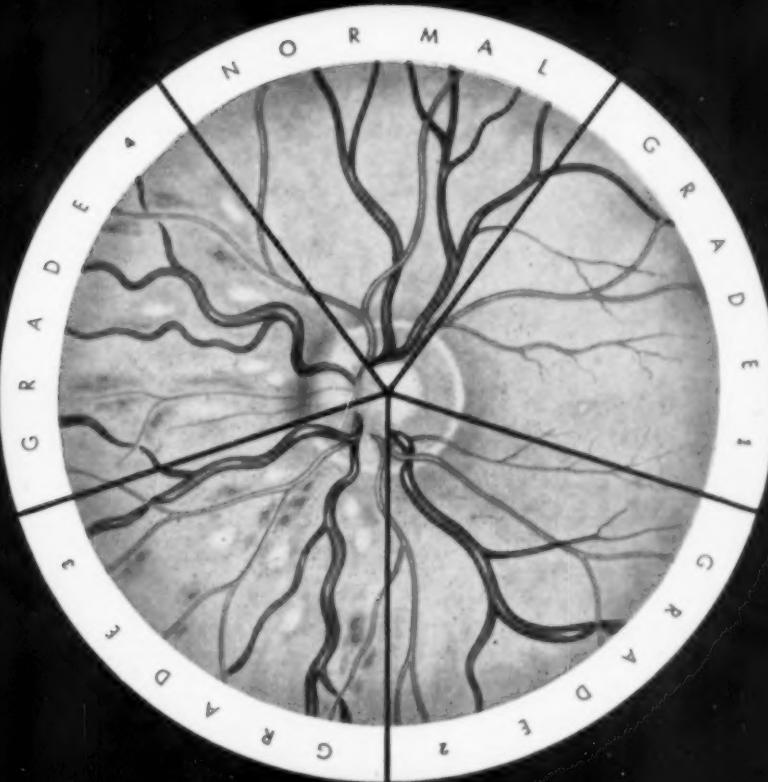


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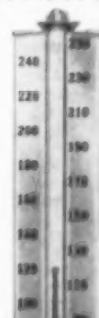
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- Resolution of retinal exudates and hemorrhages
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- Relief of associated congestive heart failure



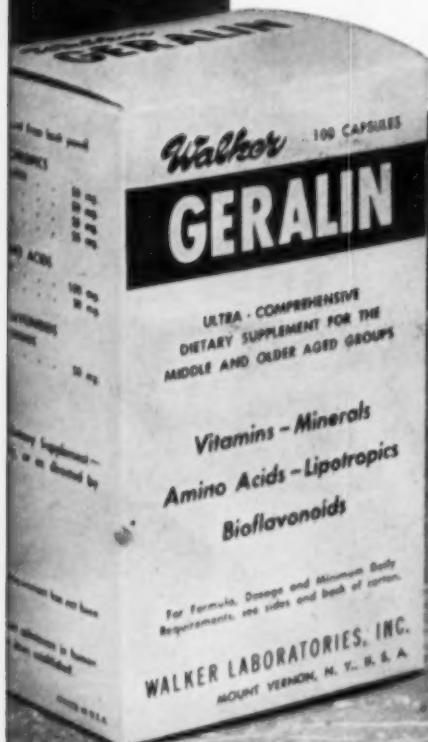
**Wyeth**

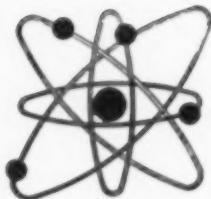
Philadelphia 1, Pa.

Lowers Blood Pressure

To help maintain vigorous  
muscle and nerve tone....  
To improve vascular and  
cerebral vitality....

SIG: 2 CAPS DAILY | BOTTLES OF 100 AND 1000.





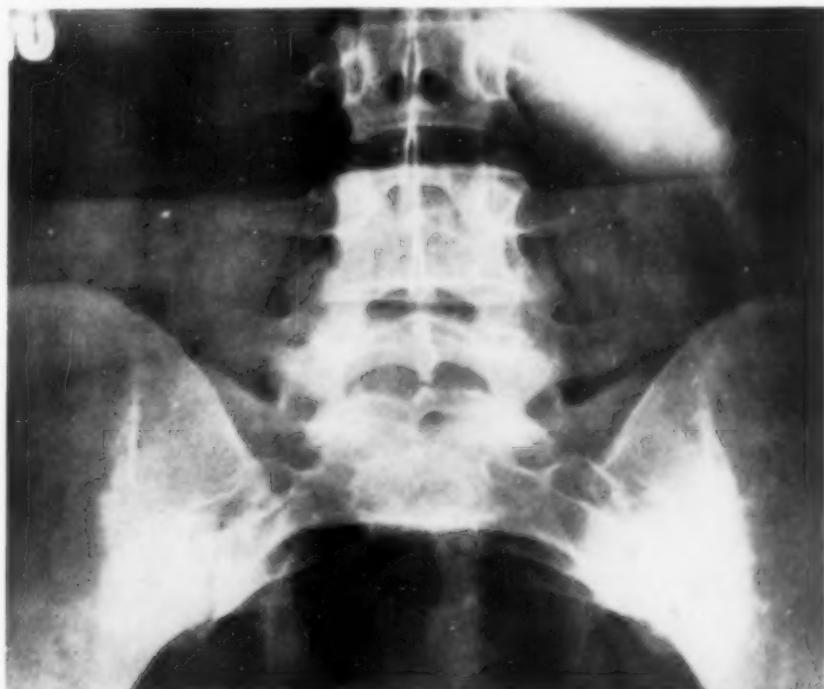
## *Diagnosis, Please!*

Edited by Maxwell H. Poppel, M.D., F.A.C.R., Professor of Radiology,  
New York University College of Medicine and Director of Radiology, Bellevue Hospital Center.

### **WHICH IS YOUR DIAGNOSIS?**

- 1. Rheumatoid arthritis
- 2. Lues
- 3. Osteochondritis
- 4. Osteocondensing ilii  
bilateral

*(Answer on page 168a)*



# MILLIONS OF ASTHMATIC ATTACKS

*have been aborted faster...more effectively...  
more economically with*

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SIMPLE TO USE



CONVENIENT



SUITABLE  
FOR CHILDREN, TOO



SLIPS INTO POCKET  
OR PURSE

Automatically measured dosage and true nebulization...nothing to pour or measure...One inhalation usually gives prompt relief of acute or recurring asthmatic attacks.

Medihaler-Epi replaces injected epinephrine in urticaria, edema of glottis, etc. due to acute food, drug, or pollen reactions...

Each 10 cc. bottle delivers 200 inhalations.

### IN ASTHMA PRESCRIBE EITHER

**Medihaler-EPI**® Riker brand epinephrine U.S.P. 0.5% solution in inert, nontoxic aerosol vehicle. Each measured dose 0.12 mg. epinephrine. In 10 cc. bottle with measured-dose valve.

**Medihaler-ISO**® Riker brand isoproterenol HCl 0.25% solution in inert, non-toxic aerosol vehicle. Each measured dose 0.06 mg. isoproterenol. In 10 cc. bottle with measured-dose valve.

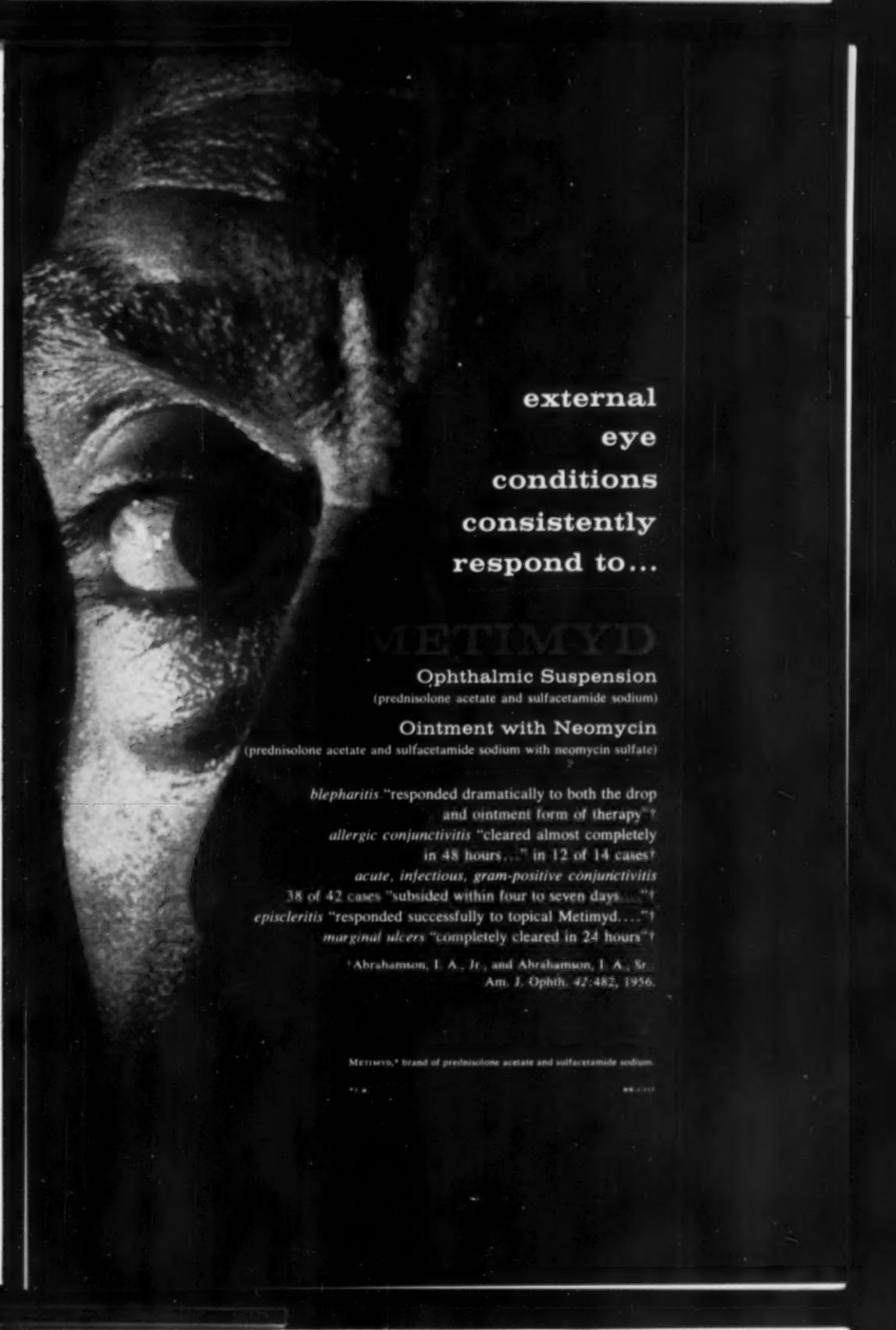
**Note:** First prescription for Medihaler medications should include the desired medication and Medihaler Oral Adapter (supplied with pocket-sized plastic carrying case for medication and Adapter).

### *The Medihaler Principle*

is also available in Medihaler-Nitro™ (octyl nitrite) for the rapid relief of angina pectoris...and Medihaler-Phen™ (phenylephrine-hydrocor-tisone-neomycin) for lasting, effective relief of nasal congestion.

**Riker**

LOS ANGELES



external  
eye  
conditions  
consistently  
respond to...

## METIMYD

Ophthalmic Suspension  
(prednisolone acetate and sulfacetamide sodium)

Ointment with Neomycin

(prednisolone acetate and sulfacetamide sodium with neomycin sulfate)

*blepharitis* "responded dramatically to both the drop  
and ointment form of therapy"\*

*allergic conjunctivitis* "cleared almost completely  
in 48 hours... in 12 of 14 cases"†

*acute, infectious, gram-positive conjunctivitis*

38 of 42 cases "subsided within four to seven days"\*\*

*episcleritis* "responded successfully to topical Metimyd..."†

*marginal ulcers* "completely cleared in 24 hours"†

\* Abrahamson, E. A., Jr., and Abrahamson, J. A., Sr.  
Am. J. Ophth. 42:482, 1956.

METIMYD,\* brand of prednisolone acetate and sulfacetamide sodium.

# effective urinary analgesia



## you can quickly stop pain, urgency, frequency and burning

Whenever urinary tract infections, strictures, obstructions, fistulas, stones, trauma or neoplasms cause painful mucosal lesions, you can provide relief quickly (within 20-25 minutes) with Pyridium. Pyridium is compatible with and complementary to

all the urinary antibacterials and permits greater flexibility in the use of any combination, potency or dosage schedule required for successful treatment.

**Dosage:** Two tablets before each meal.

**Supplied:** In bottles of 12, 50, 500 and 1000.

# Pyridium

(Brand of Phenyltoluene-aminobenzoic acid HCl)

**WARNER - CHILCOTT**

100 YEARS OF SERVICE TO THE MEDICAL PROFESSION



## Coroner's Corner

### The Last Cast

Among the long-time residents of a village in this county was a hapless epileptic. He had been unable to find any medication which effectively controlled his grand mal seizures. It was commonplace for the other residents of this village to witness him writhing and frothing while in the throes of one of his paroxysms. In fact, his seizures occurred so frequently and without reference to place or circumstance that little attention was paid to him during such an episode. He exhibited obvious signs of mental deterioration; and therefore frequently was made the victim of practical jokes perpetrated by the more sadistic of his fellow townpeople.

One day in August, 1948, he decided to go fishing in a nearby brook, so shallow and so calm that a child could easily and safely have waded through it. In the late afternoon a passer-by found the unfortunate man's body lying face downward in less than a foot of water. The Coroner was summoned and an inquest was held.

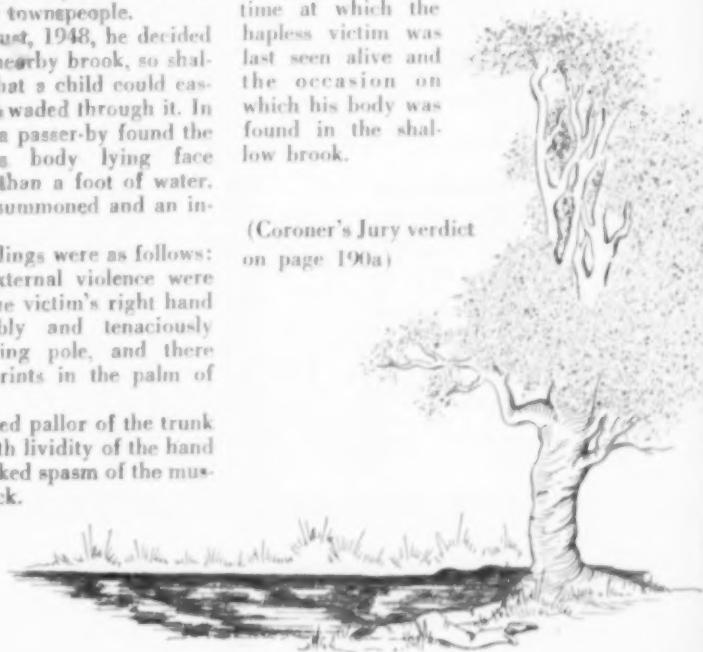
The autopsy findings were as follows: No marks of external violence were noted. However, the victim's right hand was found forcibly and tenaciously grasping the fishing pole, and there were finger-nail prints in the palm of the left hand.

There was marked pallor of the trunk and extremities with lividity of the hand and neck with marked spasm of the musculature of the neck.

A large amount of tenacious mucus, a portion of which was blood-tinged, was found in the mouth, throat and bronchi. (Was this the result of an epileptic paroxysm, or incident to stridulous laryngae incurred during the drowning death struggle?) The lungs were distended with air and contained very little water. The right side of the heart was dilated and this chamber contained hemolyzed blood.

According to accounts of reliable witnesses, it was established that no more than two hours could have intervened between the time at which the hapless victim was last seen alive and the occasion on which his body was found in the shallow brook.

(Coroner's Jury verdict  
on page 190a)



# CLINICAL EXPERIENCE INDICATES FEWER RESISTANT STAPHYLOCOCCI CHLOROMY

As clinical reports on resistance of common pathogens to antimicrobial therapy gain increasing prominence,<sup>1-5</sup> need for broad-spectrum antibiotic therapy to which resistance is less likely to develop becomes even more apparent. Particularly troublesome are the staphylococci, which often fail to respond not only to commonly used antibiotic therapy but also to agents more recently introduced.<sup>6-10</sup>

CHLOROMYCETIN (chloramphenicol, Parke-Davis) has maintained most of its original effectiveness against strains of staphylococci and against other sensitive pathogens.<sup>2-4,11-15</sup> The fact that so few strains were found to be resistant to chloramphenicol [CHLOROMYCETIN] made it possible for the clinicians to turn to this antibiotic when such a large proportion of strains was observed to be highly resistant to the other commonly used antibiotics.<sup>12</sup>

CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

## REFERENCES

- (1) Jones, W. F., Jr.; Nichols, R. L., & Finland, M.: *Proc. Soc. Exper. Biol. & Med.* **93**:388, 1956. (2) Spink, W. W.: *Ann. New York Acad. Sc.* **65**:175, 1956. (3) Kempe, C. H.: *California Med.* **84**:242, 1956. (4) Rantz, L. A., & Rantz, H. H.: *Arch. Int. Med.* **97**:694, 1956. (5) Kirby, W. M. M., Corpron, D. O., & Tanner, D. C.: *J.A.M.A.* **162**:1, 1956. (6) Nichols, R. L., & Finland, M.: *Antibiotic Med.* **2**:241, 1956. (7) Pearson, J. Z., Sonberg, A., Rosenthal, I., Lepper, M. H., Jackson, G. G., & Dowling, H. E.: *Arch. Int. Med.* **98**:273, 1956. (8) Wise, R. L., Cranny, C., & Spink, W. W.: *Am. J. Med.* **20**:176, 1956. (9) Kirby, W. M. M., Hudson, D. G., & Noyes, W. D.: *Arch. Int. Med.* **98**:1, 1956. (10) Walton, R. P., Parker, R. T., Sandusky, W. R., & Schaffer, A.: Panel discussion, *J. South Carolina M. A.* **52**:33, 1956. (11) Altemeier, W. A.: *Postgrad. Med.* **20**:319, 1956. (12) Weil, A. J., & Stempel, B.: *Antibiotic Med.* **1**:319, 1955. (13) Krantz, J. C., Jr.: *Current M. Digest* **23**:61 (Sept.) 1956. (14) Smith, R. T., Platon, E. S., & Good, R. A.: *Pediatrics* **17**:549, 1956. (15) Royer, A.: Scientific Exhibit, 89th Ann. Conv., Canadian M. A., Quebec, Canada, June 11-15, 1956.

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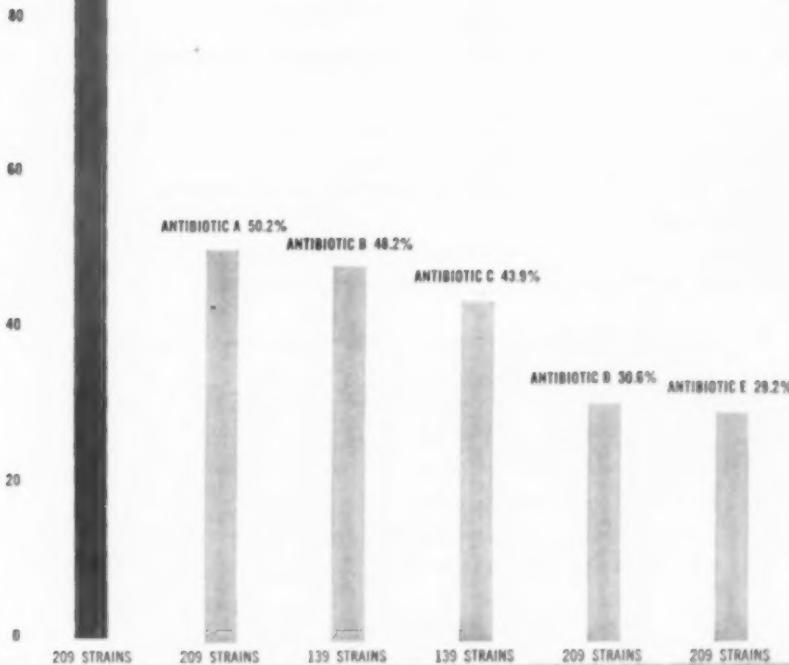


# CETIN®

COMBATS MOST CLINICALLY IMPORTANT PATHOGENS

100 CHLOROMYCETIN 98.1%

STRAINS OF COAGULASE-POSITIVE STAPHYLOCOCCI SENSITIVE  
TO CHLOROMYCETIN AND FIVE OTHER MAJOR ANTIBIOTIC AGENTS\*



\*This graph is adapted from Spink.<sup>2</sup>

relaxes  
both mind  
and  
muscle

- well suited for prolonged therapy
- well tolerated, relatively nontoxic
- no blood dyscrasias, liver toxicity, Parkinson-like syndrome or nasal stuffiness
- chemically unrelated to phenothiazine compounds and rauwolfia derivatives
- orally effective within 30 minutes for a period of 6 hours

*For treatment of* **anxiety and tension states and muscle spasms**

# Miltown®

*2-methyl-2-n-propyl-1,3-propanediol dicarbamate—  
U.S. Patent 2,724,720.*

#### **Tranquilizer with muscle-relaxant action**

#### DISCOVERED AND INTRODUCED

BY  WALLACE LABORATORIES, New Brunswick, N. J.



THE Miltown®  
NEPROBAMATE MOLECULE

SUPPLIED: 100 mg. scored tablets;  
200 mg. sugar-coated tablets.

USUAL DOSAGE: One or two 400 mg. tablets.

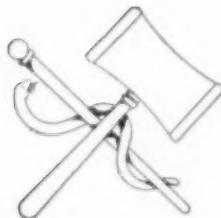
USUAL DOSAGE: One or two 100 mg. tablets t.i.d.

CCULE

#### *Literatures and Samples Available on Request*



CIR. 3700. 64



## What's Your Verdict?

Edited by Ann Picinich, Member of the Bar of New Jersey

The opinion of a physician in lunacy proceedings is of grave import. He serves as a balance between the need for immediate treatment for one mentally ill and the protection of an individual's personal right to liberty. The problem with which he is entrusted, however, is one in which there is often all too little certitude.

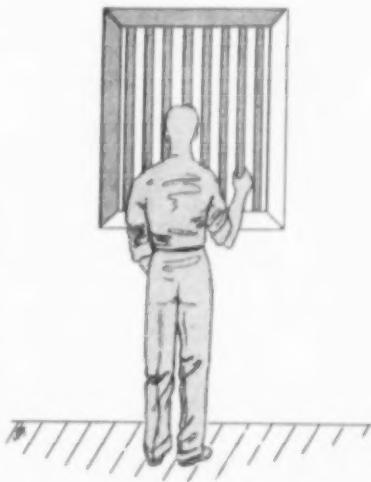
The physician in this case is charged with gross negligence in the erroneous execution of a certificate of insanity in preliminary lunacy proceedings. The plaintiff was consequently temporarily confined in a state mental hospital, for which he now seeks a monetary compensation.

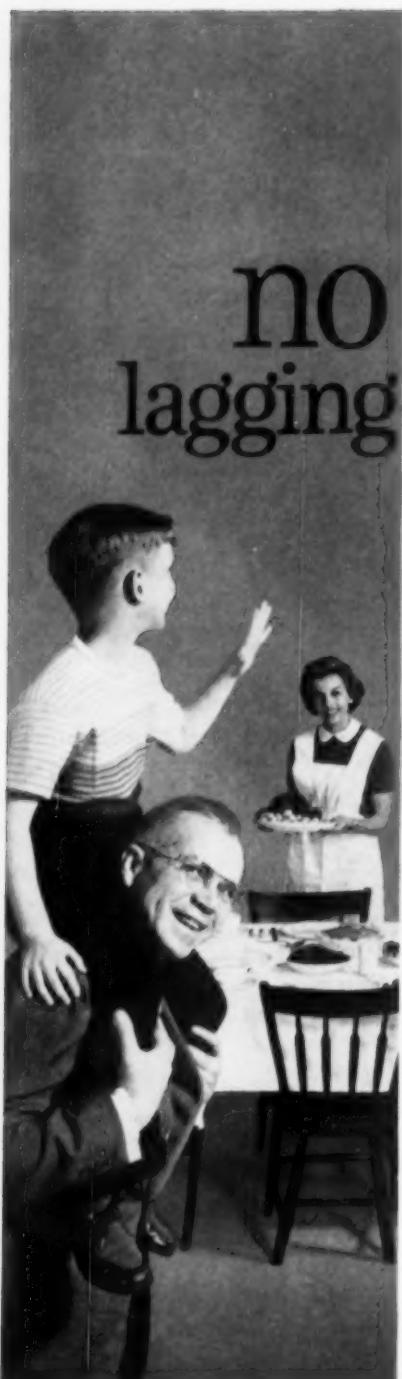
Counsel for the wronged party presents this argument. A physician is obliged to use reasonable care and skill in the examination and treatment of a patient. Likewise, this physician was under a duty to exercise reasonable care and skill in his examination to ascertain the plaintiff's true mental condition, and to use his best judgment as to the plaintiff's sanity. When the serious consequence that may flow from reliance upon a physician's certificate is the imprisonment of a sane person in an insane asylum, the standard of care imposed upon the physician should be an exacting one. Nevertheless, this physician, without adequate and proper examination of the plaintiff and with gross and culpable negligence amounting to legal malice, signed a certificate of insanity requiring the immediate confinement of the plaintiff.

Counsel for the physician responds with this argument. The physician's relation to the plaintiff in his examination of him was not that of physician and patient. He was acting rather as an expert witness in a judicial proceeding, and enjoyed the absolute privilege of witnesses. This privilege extends immunity to a witness from all civil liability for his testimony, even if that testimony should contain false and defamatory matter. To hold otherwise would tend to intimidate a witness and to deter from a disclosure of the whole truth.

How would you decide?

*(Verdict on page 183a)*





# no lagging appetites

## with **INCREMIN\***

LYSINE-VITAMIN SUPPLEMENT LEDERLE

Finicky eaters are headed for a fast nutritional build-up with INCREMIN—tasty appetite stimulant.

INCREMIN offers L-Lysine for improved protein utilization, and essential vitamins for their stimulating effect on appetite.

Tasty INCREMIN is available in either Drops or Tablets. Caramel-flavored Tablets may be orally dissolved, chewed or swallowed. Cherry-flavored Drops may be mixed with milk, formula or other liquid. Tablets: bottles of 30. Drops: plastic dropper-type bottle of 15 cc.

*Each INCREMIN Tablet  
or each cc. of INCREMIN Drops contains:*

L-Lysine	300 mg.	Pyridoxine (B <sub>6</sub> )	5 mg.
Vitamin B <sub>12</sub>	25 mcgm.	(INCREMIN Drops contain 1% alcohol)	
Thiamine (B <sub>1</sub> )	10 mg.		

Dosage: only 1 INCREMIN Tablet or 10-20 INCREMIN Drops daily.

Pat. U.S. Pat. Off.

LEDERLE LABORATORIES DIVISION  
AMERICAN CYANAMID COMPANY  
PEARL RIVER, NEW YORK

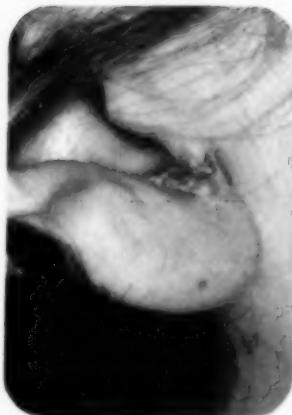


*"In our opinion, Vioform with Hydrocortisone is a worthwhile addition to many important skin preparations physicians need and use for controlling acute and chronic skin disorders."<sup>1\*</sup>*

# clearing and control of this skin disease ...and many others

*further evidence for*

## NEW Vioform<sup>®</sup>- hydrocortisone Cream



*before*



*after*

Complete clearing in one week.\* This case of seborrheic dermatitis had been present 7 days. When seen, there were scaly, reddened lesions at right auditory meatus and patient complained of pruritus.

### VIOFORM-HYDROCORTISONE

**CREAM** and boric acid wet compresses were sufficient to provide complete clearing in one week. No history of recurrence.

\* Nelson, M. Personal communication.

# NEW Vioform- Hydrocortisone Cream

#### Supplied:

**VIOFORM-HYDROCORTISONE Cream**, containing iodochlorhydroxyquin 3% and hydrocortisone (free alcohol) 1% in a water-washable base.  
Tubes, 5 Gm.   Tubes, 20 Gm.

**VIOFORM®** (iodochlorhydroxyquin CIBA)

Also Available:

**VIOFORM**      Cream      Ointment      Powder

Insufflate      Inserts

**ENTERO-VIOFORM®**      Tablets



**"Mediatric" will help make the "senior" years  
more pleasant and enjoyable.**

"Mediatric" is specially formulated to counteract the adverse influence of declining gonadal function, nutritional inadequacy and emotional instability.

"Mediatric" contains estrogen and androgen in amounts that will effectively supplement reduced gonadal hormone production; nutritional supplements carefully selected to meet the needs of the patient; and a mild antidepressant to promote a brighter mental outlook. Available in tablets, capsules, and liquid.

**"MEDIATRIC"**

Steroid-Nutritional Compound

IN PREVENTIVE GERIATRICS



Ayerst Laboratories • New York, N. Y. • Montreal, Canada

not an antacid  
not an antispasmodic  
not an anticholinergic  
not a sedative

but

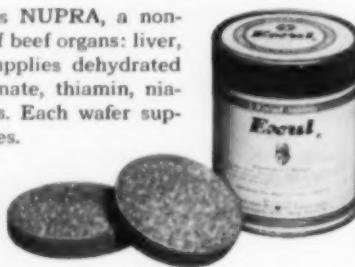
A NEW NUTRITIONAL TREATMENT FOR PEPTIC ULCER

**Exul**®

- relieves symptoms in a few days
- heals ulcers within one to three weeks
- heals in the presence of acid
- has no side effects

EXUL's principal ingredient is NUPRA, a non-hormonic, non-steridic extract of beef organs: liver, brain, adrenals. EXUL also supplies dehydrated cream and milk, ferrous gluconate, thiamin, niacinamide and flavoring extracts. Each wafer supplies approximately 135 calories.

EXUL is supplied in hermetically-sealed tins containing 5 wafers. Dosage is 5 wafers or less daily, depending on the severity of the case.



*Complete literature is available on request to Medical Department.*

**YORKTOWN PRODUCTS CORP., 441 LEXINGTON AVE., NEW YORK 17, N.Y.**

# Medical Teasers

A Challenging Crossword Puzzle for the Physician

(Solution on page 166a)

## HORIZONTAL

- Physiognomy
- Those in office
- Tapioca
- Indol
- Small blood vessel
- Acetbromanilide
- Some
- Surgeon General's Office (Abbr.)
- Hypertension (Abbr.)
- Norse goddess of healing
- Prefix denoting movement
- horn Calculus
- Egg of a louse
- A coal-tar product used as a dye
- An infectious disease of horses, cattle and sheep
- Pinch
- 's murmur, Venous Hum
- Centers of disease processes
- Chest sounds
- A measure of length (Var.)
- First portion of the duodenum, as seen in an x-ray
- An international group (Abbr.)
- Those suffering the loss of the faculty of language
- Nickel (Symb.)
- Greek letter
- Disease-causing plants of the Leguminosae family
- Response of the auditory nerve to an electrical stimulus
- Animal's stomach
- A god of the underworld
- An affirmative
- A voracious eel
- Epidemic gangrenous proctitis
- The upward curve of a ship's plank
- A Dutch cheese
- Varnish ingredient
- South American wood sorrel
- District Attorney (Abbr.)
- Distress signal
- Absent over leave (Abbr.)
- Relating to the breast-bone
- False arils
- In one's dotage
- Ship's canvas
- An individual lesion of an infectious tropical disease
- A circumscribed swelling



CONTRIBUTED BY JO PAQUIN

## VERTICAL

- Accelerating
- Consumed
- Metal plate covering the root of a tooth to be crowned
- Girl's name
- International Council of Nurses (Abbr.)
- Sodium (Symb.)
- European country
- Sealed (Abbr.)
- Aluminum (Symb.)
- Relating to the stomach
- Any part of the body exercising a specific function
- Test for syphilis
- Wayside hotel
- A Hindu system of mental discipline
- Ferrum
- Relating to the paths by which motor impulses travel
- Society (Abbr.)
- Sesame
- Rhus glabra
- Eponym of Sarcoïd
- A size of coal
- Friar's title
- Ruta
- foot, talipes valgus
- Phthisic
- Scotch surgeon for whom an operation for knock-knee is named
- Trichina host
- In what manner
- Cunning
- Intemperance
- Bronze or copper (Roman Antq.)
- The constellation Aries
- An injection
- Table (Sp.)
- Scents
- Philadelphia gynecologist for whom an operation for retro-displacement of the uterus is named
- Large body of water
- The medical department of this University was established in 1810
- A game of chance
- River in Italy
- Entire amount
- Mariner's direction (Abbr.)
- Brood of pheasants (Var.)
- Lithium (Symb.)
- Each (Abbr.)

# can you read this thermometer,



## doctor?

Naturally not. Missing calibration makes it worthless.

Equally useless and dangerous is a "quantitative" urine-sugar test that does not quantitate dependably, or omits readings in the critical range.

Enzyme urine-sugar tests are sensitive and specific for glucose—excellent "yes" or "no" tests but undependable for quantitation. King and Hainline,<sup>1</sup> after testing 1,000 urines, found an enzymatic urine-sugar test unable to distinguish in the important range between  $\frac{1}{2}$  per cent and 2 per cent or more of urinary glucose. Leonards,<sup>2</sup> in a report on 4,020 tests, revealed that "...in 502 out of 804 tests the wrong interpretation was made." He concluded that enzymatic urine-sugar testing "...as a quantitative procedure is unsatisfactory and can lead to serious error in the interpretation of a patient's clinical condition."<sup>2</sup>

Failure to recognize this limitation of enzyme tests may result in incorrect insulin dosage,<sup>2</sup> and may lead to diabetic complications.

(1) King, J. W., and Hainline, A., Jr.: Commercial Glucose Oxidase Preparations for the Detection of Glucose in Urine, *Cleveland Clin. Quart.* 23:212, 1956. (2) Leonards, J. R.: Evaluation of Enzyme Tests for Urinary Glucose, *J.A.M.A.* 163:260 (Jan. 26) 1957.

reliable readings throughout the critical range—  
does not omit  $\frac{3}{4}\%$  (++) and 1% (+++)

color  
calibrated  
**CLINITEST®**

a 15 year "standard" in urine-sugar testing



AMES COMPANY, INC. • ELKHART, INDIANA • Ames Company of Canada, Ltd., Toronto



*to restore appetite and promote weight gain*

# R<sup>†</sup> **LACTOFORT<sup>®</sup>**

L-lysine + vitamins + minerals

### *this baby needs help*

If he turns his back on food, the infant can neither gain weight nor grow properly.

Efficient protein synthesis requires all the essential amino acids, simultaneously, in the correct proportions.

But many foods in the infant diet are relatively deficient in lysine, compared with meat protein.

**Supplied:** In 46 Gm. bottles with special Lactofort measuring spoon enclosed.

### *Persistent anorexia calls for nutritional support with Lactofort*

This complete nutritional supplement helps to restore normal growth and perk up lazy appetites in infants with anorexia and impaired nutrition. It supplies physiologic amounts of L-lysine to raise the biological value of milk and cereal to that of high-quality animal protein. In addition, Lactofort provides generous amounts of iron, calcium and all the essential vitamins.

*Reference:* Williamson, M. B., in Albanese, A. A., et al.: New York State J. Med. 55:3453, 1955.

**a dry powder . . . stable . . . odorless . . . tasteless . . . readily soluble**

*first with lysine*

**Whites**

WHITE LABORATORIES, INC. • Kenilworth, New Jersey

#### ANTIBACTERIAL RINSE AND IRRIGATION

Here's how irrigation with Zephiran can be most useful in your practice: an all-purpose Zephiran aqueous solution 1:5000 makes an ideal eye, ear, nose and throat rinse, and an effective irrigation fluid for obstetric, gynecologic and genito-urinary cases. Also extremely practical for cleansing and flushing in the debridement of wounds.



#### WET COMPRESSES AND DRESSINGS

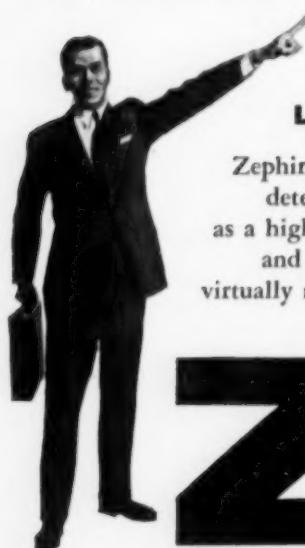
Nonirritating antiseptic wet dressings and compresses are prepared with 1:5000 Zephiran aqueous solution, without fuss or waste of time.\* Zephiran is always ready to do an efficient job whatever the specific application.

\*Caution: Do not use with occlusive dressings.



#### STERILE STORAGE OF INSTRUMENTS

Visible sterile storage with Zephiran 1:5000 to 1:1000 aqueous solution (with Anti-Rust Tablets "Winthrop") makes presterilized instruments, ampuls, etc., easily accessible and ready for immediate use.



#### LET ZEPHIRAN WORK FOR YOU

Zephiran is dependable, safe and economical. A refined cationic detergent with unusual wetting and spreading ability as well as a highly potent antiseptic—Zephiran *kills* many gram-positive and gram-negative bacteria *in seconds*. It is nonirritating and virtually nontoxic. Zephiran has hundreds of uses in daily practice.



REFINED BENZALKONIUM CHLORIDE

**zephiran®**  
CHLORIDE

*Winthrop*

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ZEPHIRAN, (BRAND OF BENZALKONIUM, 20 CHLORIDE, REFINED), TRADEMARK REG. U. S. PAT. OFF.

2149 40



*Parkinson's disease*

# PANPARNIT®

hydrochloride

helps patients

to help themselves

Most distressing of all to the parkinsonian patient is his muscular rigidity...a pathologically imposed strait jacket that forces him to depend on others for many of his needs.

PANPARNIT...“the drug of choice” in 62 per cent\* of cases...generally affords substantial relief of spasm, restoring the patient's ability to care for himself and boosting his morale. In many instances PANPARNIT also produces gratifying relief of tremor.

A gradually increasing schedule of dosage is recommended for optimal results.

\*Schwab, R. S., and Leigh, D.,  
J.A.M.A., 139:629, 1949.

PANPARNIT® hydrochloride (caramiphen hydrochloride GEIGY). Sugar-coated tablets of 12.5 mg. and 50 mg.

# GEIGY

Ardsley, New York



Relaxes  
without  
impairing  
mental  
or physical  
efficiency  
... well suited  
for  
prolonged therapy

**1** "The primary finding of these studies is that meprobamate ['Miltown'] alone . . . produces no behavioral toxicity in our subjects as measured by our tests of driving, steadiness and vision."

Marquis, D. G., Kelly, E. L., Miller, J. G., Gerard, R. W. and Rapoport, A.: *Ann. New York Acad. Sc.* 67:791, May 6, 1957.

**2** "Since it [meprobamate—'Miltown'] does not cloud consciousness or lessen intellectual capacity, it can be used . . . even by those busily occupied in intellectual work."

Kayes, B. L.: *Pennsylvania M. J.* 60:177, Feb. 1957.

**3** "... the patient never describes himself as feeling detached or 'insulated' by the drug ['Miltown']. He remains completely in control of his faculties, both mental and physical..."

Sokoloff, O. J.: *A.M.A. Arch. Dermat. & Syph.* 74:393, Oct. 1956.

**4** "It ['Miltown'] . . . does not cloud the sensorium, and has a helpful somnifacient effect devoid of 'hangover'."

Kessler, L. N. and Barnard, R. D.: *M. Times* 84:431, April 1956.

**5** "In anxiety and tension states, meprobamate relaxes without dulling cortical function to the same extent as the commonly-used barbiturates."

Rindskopf, W., Pavlosky, M., Gutekunst, C. and Sands, S. L.: *J. Iowa M. Soc.* 47:57, Feb. 1957.

# Miltown®

2-methyl-2- $\alpha$ -propyl-1, 3-propanediol dicarbamate—U. S. Patent 2,724,720  
TRANQUILIZER WITH MUSCLE-RELAXANT ACTION



SUPPLIED: 400 mg. scored tablets  
200 mg. sugar-coated tablets

USUAL DOSAGE: One or two 400 mg. tablets t.i.d.  
Literature and samples available on request

 WALLACE LABORATORIES, New Brunswick, N. J.

GM-5104

# After Hours

## "ROCKHOUNDING"

EVERY physician should have a hobby in which he can periodically and completely lose himself and thereby secure physical and mental relaxation and escape from the stresses and strains of his professional responsibilities. This hobby should be unrelated to medicine and it should permit the doctor to remain as close to, or as far away from, the telephone as he wishes.

"Rockhounding" is just such a hobby. Ranking third place in American hobbies, this relatively new, extremely popular, rapidly growing hobby is enjoyed by thousands of doctors, lawyers, merchants, teachers, students, and men, women and children of all ages and classes.

The collecting, classifying and studying of minerals and the grinding and polishing of gem stones is enjoyable, profitable, educational and creative. Local, state and national

Gem and Mineral Societies exist by the hundreds over the nation. These clubs provide educational and scientific programs, field trips for collecting rocks and minerals, and training courses in the art of gem cutting. They conduct state and national competitive shows where rockhounds can "show-off" their handiwork and exhibit their "bragging rocks" and exchange ideas and long tales. Several magazines are devoted exclusively to rocks and minerals and the lapidary arts.

No hobby offers a greater variety of interesting and related activities, or a better opportunity to learn more about the world in which we live. I wholeheartedly recommend it to the medical profession.

D. E. FLETCHER, M.D., President  
North Texas Gem & Mineral Society,  
Wichita Falls, Texas

Photographs with brief description of your hobby are welcomed. An imported German apothecary jar will be sent to each contributor.



**now "... care of the man  
rather than merely his stomach."**

**WOLF &  
WOLFF  
HUMAN  
GASTRIC  
FUNCTION**

# "Milpath"

Miltown®  anticholinergic



controls gastrointestinal dysfunction

because it **cares for the man**

**At the cerebral level**

the tranquilizer Miltown in "Milpath" controls the psychogenic element in G. I. disturbances. (Miltown does not produce barbiturate loginess or hangover.)

as well as his 'stomach'

**At the peripheral level**

the anticholinergic, *tridihexethyl iodide*, in "Milpath" blocks vagal impulses to prevent hypermotility and hypersecretion.

**FOR** duodenal ulcer • gastric ulcer • intestinal colic  
spastic and irritable colon • ileitis • esophageal spasm  
G.I. symptoms of anxiety states

**prescribe:**

1 tablet t.i.d. at  
mealtimes and  
2 at bedtime

**Formula:**

Miltown® (meprobamate)  
400 mg. (2-methyl-2-n-  
propyl-1,3-propanediol  
diacetate)  
U. S. Patent 2,724,730  
tridihexethyl iodide 25 mg.  
(8-diethylamino-1-cyclohexyl-  
1-phenyl-1-propanol-ethiodide)  
U. S. Patent 2,698,325

# "Milpath"



**WALLACE LABORATORIES** New Brunswick, N. J.      *Literature and samples on request*

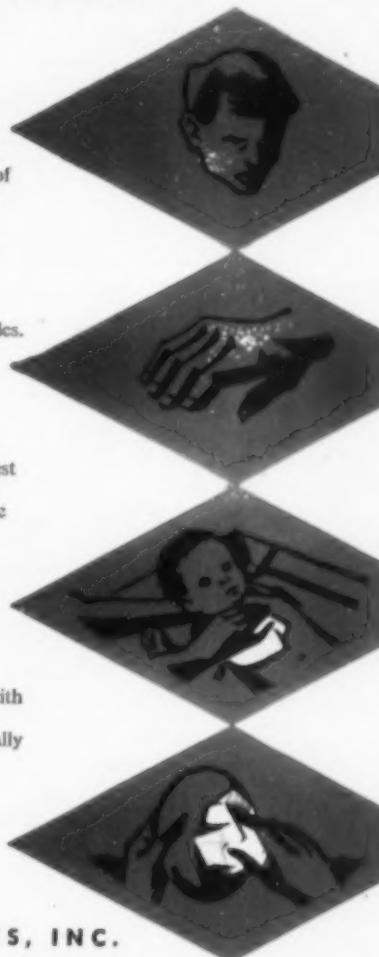
## *When Soap is Contraindicated*

*...Cleanse Sensitive Skin  
Effectively without Irritation*

### **Acidolate®**

a non-lathering sulfated oil detergent, is the hypoallergenic skin cleanser of choice when a liquid emulsifying agent of low surface tension is required. It is an excellent cleansing agent in acne vulgaris, for removal of ointment and greases from the skin, hair or wounds, and as a shampoo for ringworm of the scalp.

*Supplied:* 8 fluid ounce and 1 gallon bottles.



### **Dermolate®**

"Milder than the mildest castile," a nonirritating detergent in cake form, is an ideal cleanser where even the mildest soap is poorly tolerated. It is ideally suited for routine use as a hypoallergenic skin cleanser; especially recommended for normal skin care of infants and young children.

*Supplied:* 4 ounce cakes.

### **Terjolate®**

a household cleanser designed for use with Acidolate and Dermolate, is neither irritating nor sensitizing—it is an unusually effective cleanser for all household purposes.

*Supplied:* 8 and 16 fluid ounce and 1 gallon bottles.



**WHITE LABORATORIES, INC.**

KENILWORTH, N. J.

# new

the logical combination for antibacterial

# MYSTHE

Squibb Tetracycline Phosphate Complex (Sumycin + Nystatin (Mycostatin))

Each capsule contains tetracycline phosphate complex equivalent to 250 mg. tetracycline hydrochloride and 250,000 units Mycostatin.

Minimum adult dosage: 1 capsule q.i.d. Bottles of 16 and 100.

**ALSO AVAILABLE:**

**Sumycin Capsules** (tetracycline phosphate complex equivalent to 250 mg. tetracycline hydrochloride); Bottles of 16 and 100.

**Mystecin Capsules** (250 mg. tetracycline hydrochloride and 250,000 units Mycostatin); Bottles of 16 and 100.

**Mystecin Half Strength Capsules** (125 mg. tetracycline hydrochloride and 125,000 units Mycostatin); Bottles of 16 and 100.

**Mystecin Suspension** (fruit-flavored oil suspension containing equivalent of 125 mg. tetracycline hydrochloride and 125,000 units Mycostatin per 5 cc.); 2-ounce bottles.

**SQUIBB**



*Squibb Quality—the Priceless Ingredient*

**WHAT IS IT?**

the phosphate complex  
of tetracycline for initial  
antibiotic blood levels...faster  
and higher than ever before

+

antifungal activity of Mycostatin  
for added protection against  
monilial superinfection

therapy and antifungal prophylaxis

**CLINIV**

**WHY SHOULD YOU PRESCRIBE IT?**

Because it provides highly effective  
broad spectrum antibiotic  
therapy for many common infections  
and at the same time protects  
your patients against the monilial  
overgrowth so commonly observed  
during therapy with the  
usual broad spectrum antibiotics

# in seasonal allergies ...as in colds

*you can check excessive  
irritant secretions...*

*and "unlock" the  
closed-up nose*



orally with

## Novahistine®

In the management of seasonal allergies and the common cold, Novahistine works better than antihistamines alone. The distinct additive action of a vasoconstrictor with an antihistaminic drug *combats allergic reactions* more efficiently . . . provides marked nasal decongestion and inhibits excessive irritant secretions. Novahistine eliminates patient misuse of nose drops, sprays and inhalants . . . avoids the risk of rebound congestion. Novahistine will not cause jitters or insomnia.

Each Novahistine Tablet or teaspoonful of Elixir provides 5.0 mg. of phenylephrine HCl and 12.5 mg. of prophenpyridamine maleate. For patients who need greater vasoconstriction, Novahistine Fortis Capsules and Novahistine with APC Capsules contain twice the amount of phenylephrine.

**Pitman-Moore Company • Division of Allied Laboratories, Inc.**  
**Indianapolis 6, Indiana**



## Who Is This Doctor?

**H**E was born in Kayserberg, in Upper Alsace, on January 14, 1875. His father was the pastor and the teacher of a small evangelical community in his home town. In 1900, he took degrees in theology and in philosophy at the University of Strasbourg and obtained a post at the Church of St. Nicholas, first as a deacon and later as a curate.

In 1904, he read an article in the Paris "Journal des Missions Evangeliques" about the desperate conditions of the Negroes in French Equatorial Africa. He then decided to study medicine with the idea of going there as a doctor. He was 30 at this time, and had already achieved a world-wide reputation in philosophy and theology as well as in music.

Before leaving Europe, he married Helen Bresslau, the daughter of a Strasbourg historian. Helen was a trained nurse and offered valuable help in his subsequent work.

In 1911, he took his medical degree and went to Africa where he established a hospital at Lambaréne. The hospital was supported by funds obtained through organ concerts which he gave on his periodic trips to Europe and by gifts received from many countries. In spite of the strenuous work at the hospital he found time to work on his philosophical and other writings.

He has written more than a dozen books ranging from theological treatises and monumental biography of Johann Sebastian Bach to a multi-volume work entitled "The Philosophy of Civilization."

Through his interest in organ music he became an authority on organs, especially on their preservation and reconstruction. He is also an expert on the life of Bach and a superlative interpreter of his organ works, of which he has recorded a great number.

He was awarded the 1952 Nobel Peace Prize.

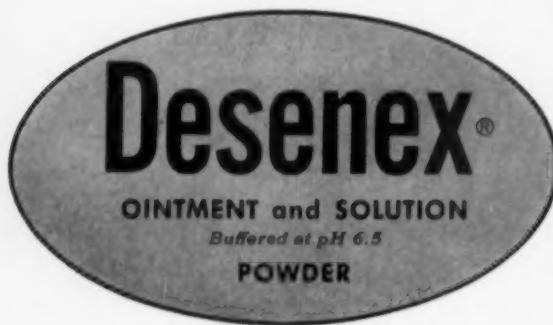
He is 81 years old and still actively engaged in his work.

Can you name the doctor without turning to page 182a?

athlete's foot  
is now  
in season



Susceptibility factors play an important part in the occurrence and spread of athlete's foot. With the advent of warm weather, individuals who have had the disease are prone to exhibit recurrences or reinfection. Frequently, this can be prevented by the continuous prophylactic use of Desenex preparations.



relieves itching  
stops fungal growth  
prevents recurrence

For most effective and convenient therapy and continuing prophylaxis, use Desenex as follows: **AT NIGHT** the Ointment (zincundecate) - 1 oz. tubes and 1 lb. jars. **DURING THE DAY** the Powder (zincundecate) - 1½ oz. and 1 lb. containers. **AFTER EVERY FOOT BATH** the Solution (undecylenic acid) - 2 fl. oz. and 1 pt. bottles. The Solution should not be used on broken skin. In otomycosis, Desenex solution or ointment.



*Write to Professional Service Department for free sample supply.*

**MALTBIE LABORATORIES DIVISION • WALLACE & TIERNAN, INC. • Belleville 9, N.J.**

designed to

**control anxiety**

with

in Arthritis, Asthma, Allergic Dermatoses

**lower corticoid dosage**

the original tranquilizer-corticoid

**Ataraxoid**

prednisolone and hydroxyzine

\*  
provides the preferred  
corticoid activity of  
STERAM® (prednisolone)  
enhanced by the  
emotional tranquilizing  
action of ATARAX  
(hydroxyzine)

ATARAXOID now written as

**Ataraxoid 5.0**

5.0 mg. prednisolone, 10 mg. hydroxyzine

and now available as **NEW**

**Ataraxoid 2.5**

2.5 mg. prednisolone, 10 mg. hydroxyzine

and **NEW**

**Ataraxoid 1.0**

1.0 mg. prednisolone, 10 mg. hydroxyzine

*advantages:* (1) greater flexibility of dosage, (2) effective  
tranquilization permits lower corticoid dosage

formerly **Atarax**  
now written **Ataraxoid 5.0**



FIRST CLASS  
PERMIT NO. 12074  
BROOKLYN, N.Y.

**BUSINESS REPLY CARD**

No Postage Stamp Necessary If Mailed in The United States

3¢—POSTAGE WILL BE PAID BY

**PFIZER LABORATORIES**

*Division, Chas. Pfizer & Co., Inc.  
650 Flushing Avenue  
Brooklyn 6, New York*



# Ataraxoid\*

*prednisolone and hydroxyzine*

confirmed by marked success

## in 95% of 1095 cases<sup>1</sup>

control of emotional factors by tranquilization with  
ATARAX® enhances the response to STERANE®

in arthritis, asthma, allergic dermatoses and other corticoid indications

ENHANCING EFFECT SUBSTANTIALLY REDUCES THE CORTICOID REQUIREMENTS...  
ACCOMPANIED BY REDUCTION OR ELIMINATION OF CORTICOID SIDE EFFECTS

GREATER CLINICAL IMPROVEMENT CAN BE OBTAINED—EVEN AFTER CORTICOIDS ALONE  
AND OTHER AGENTS PROVE UNSATISFACTORY

TRANQUILIZER CONTROL GREATLY FACILITATES PATIENT MANAGEMENT

*Supplied:* Ataraxoid 5.0 scored green tablets, 5.0 mg. prednisolone (STERANE) and 10 mg. hydroxyzine hydrochloride (ATARAX), bottles of 30 and 100.

*New* Ataraxoid 2.5 scored blue tablets, 2.5 mg. prednisolone and 10 mg. hydroxyzine hydrochloride, bottles of 30 and 100.

*New* Ataraxoid 1.0 scored orchid tablets, 1.0 mg. prednisolone and 10 mg. hydroxyzine hydrochloride, bottles of 100.



PFIZER LABORATORIES Division, Chas. Pfizer & Co., Inc. Brooklyn 6, New York

L. Personal communications

\*Trademark

Please send me a bottle of ATARAXOID 2.5.

DR

(PLEASE PRINT)

ADDRESS

CITY

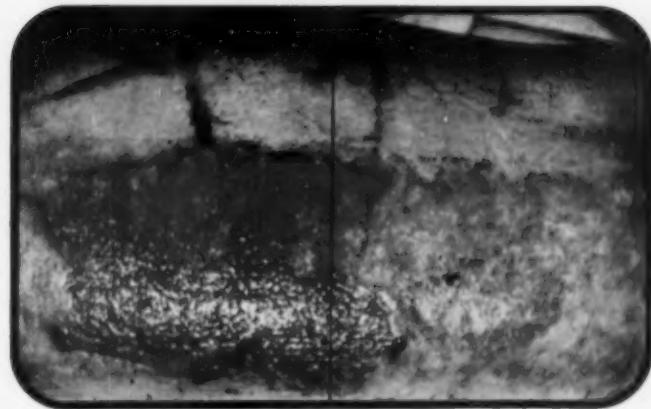
ZONE

STATE

Pfizer will be  
pleased to send  
you a sample  
of ATARAXOID 2.5  
for use in your  
own practice.

Complete and Mail  
Attached Request Card





*Skin graft donor site after 2 weeks' treatment with...*

*petrolatum gauze—still  
largely granulation tissue* | *FURACIN gauze—  
completely epithelialized*

## **OBJECTIVE EVIDENCE OF SUPERIOR WOUND HEALING**

was obtained in a quantitative study of 50 donor sites, each dressed half with FURACIN gauze, half with petrolatum gauze. Use of antibacterial FURACIN Soluble Dressing, with its water-soluble base, resulted in more rapid and complete epithelialization. No tissue maceration occurred in FURACIN-treated areas. There was no sensitization.

Jeffords, J. V., and Hagerty, R. F.: Ann. Surg. 145:169, 1957

**FURACIN®** . . . brand of nitrofurazone  
the broad-range bactericide that is *gentle to tissues*

**spread** FURACIN Soluble Dressing: FURACIN 0.2% in water-soluble ointment-like base of polyethylene glycols.

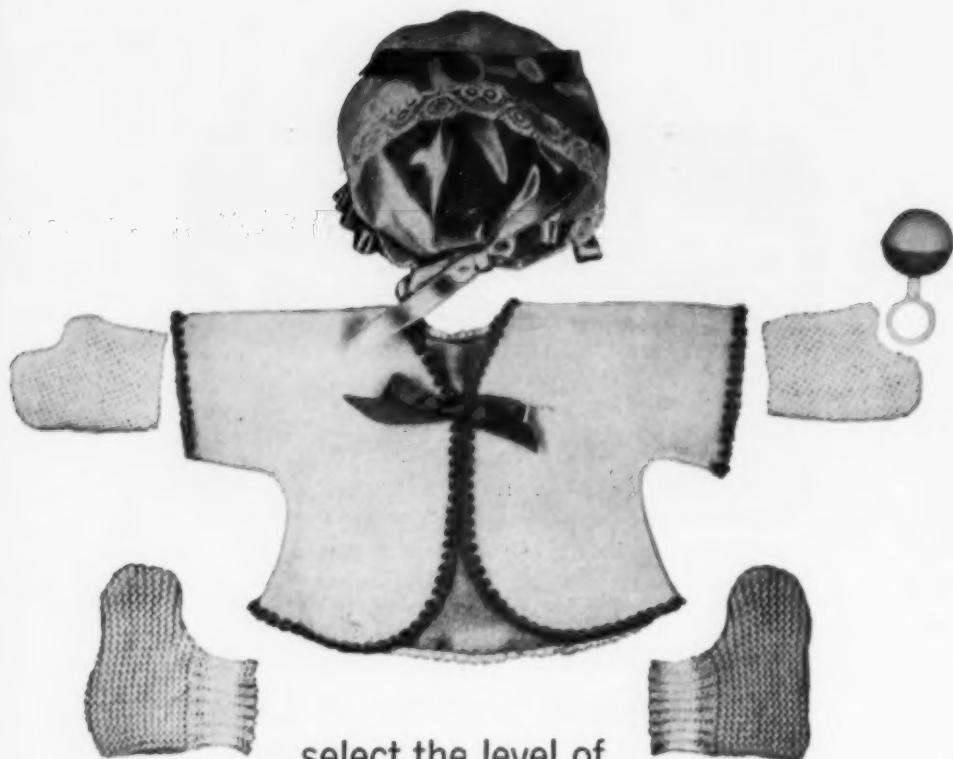
**sprinkle** FURACIN Soluble Powder: FURACIN 0.2% in powder base of water-soluble polyethylene glycols. Shaker-top vial.

**spray** FURACIN Solution: FURACIN 0.2% in liquid vehicle of polyethylene glycols 65%, wetting agent 0.3% and water.



EATON LABORATORIES, NORWICH, N.Y.

*Nitrofurans—a NEW class of antimicrobials—*   
*neither antibiotics nor sulfonamides*



select the level of  
vitamin protection the baby needs

### Tri-Vi-Sol®

3 basic vitamins...A, D, C

### Poly-Vi-Sol®

6 essential vitamins...A, D, C, B<sub>1</sub>,  
B<sub>2</sub>, and niacinamide

### Deca-Vi-Sol®

10 nutritionally significant vitamins,  
including A, D, C, B<sub>1</sub>, B<sub>2</sub>, niacin-  
amide, biotin, pantothenic acid, B<sub>6</sub>  
and stable B<sub>12</sub>



"unbreakable  
Safti-Dropper"

- highly stable—refrigeration not required
- readily accepted—exceptionally pleasant flavor, no unpleasant aftertaste
- full dosage assured—can be dropped directly into baby's mouth

In 15 cc., 30 cc. and economical 50 cc. bottles  
with calibrated plastic 'Safti-Dropper'

**MEAD JOHNSON**

SYMBOL OF SERVICE IN MEDICINE



fatigue



memory lapses



muscular pain



depression

## for middle-age slowdown

Plestran is indicated as an aid in restoration of vigor in middle-aged or elderly patients who complain of chronic fatigue... reduced vitality... low physical reserve... impaired work capacity... depression... muscular aches and pains... or cold intolerance. Such "signs of aging," far from being due to physiologic disturbances, may often result from endocrine imbalance, especially gonadal and thyroid dysfunction.<sup>1-4</sup> Plestran provides ethinyl estradiol (0.005 mg.); methyltestosterone (2.5 mg.); and Proloid<sup>\*\*</sup> (1/4 gr.)—hormones which help to correct endocrine imbalance and often halt or reverse involutional and degenerative changes.<sup>1-4</sup>

*Plestran restores work capacity and a sense of well-being, usually within 7 to 10 days. It improves nitrogen balance, leads to better muscle tone and vigor, enhances mental alertness,*

\*Purified thyroid globulin

helps to correct osteoporosis, senile skin and hair texture changes and relieves muscular pain.

*The anabolic and tonic effects of the hormones in Plestran appear to be enhanced by combination so that small dosages are very effective. Combination also overcomes some of the disadvantages of therapy with a single sex hormone, such as virilization, feminization or withdrawal bleeding.<sup>5</sup>*

**Dosage:** Usually one tablet daily; occasional patients may require two tablets daily, depending on clinical response.

Supplied in bottles of 100 and 500.

**References:** 1. McGavack, T. H.: *Geriatrics* 5:151 (May-June) 1950. 2. Masters, W. H.: *Obst. & Gynec.* 8:61 (July) 1956. 3. Kimble, S. T., and Stieglitz, E. J.: *Geriatrics* 7:20 (Jan.-Feb.) 1952. 4. Kountz, W. B., and Chieffo, M.: *Geriatrics* 2:344 (Nov.-Dec.) 1947. 5. Birnberg, C. H., and Kurzrok, R.: *J. Am. Geriatrics Soc.* 3:656 (Sept.) 1955.

# PLESTRAN

TRADEMARK

*a metabolic regulator*

WARNER - CHILCOTT

100 YEARS OF SERVICE TO THE MEDICAL PROFESSION



some appetites  
need a nudge



... and with Stimavite Tastitabs you can prod lagging appetites and promote growth in younger patients, perk up the "picky" adult eater. Their delicious natural fruit flavor makes patient cooperation easy.

Each STIMAVITE TASTITAB contains:

SUPPLEMENTAL DIETARY CONSTITUENTS	
L-lysine .....	15 mg. for amino-acid improved protein quality.
Vitamin B <sub>2</sub> .....	20 mcg. for appetite and growth stimulation.
Vitamin B <sub>6</sub> .....	10 mg. for appetite stimulation.
Vitamin B <sub>6</sub> .....	3 mg. for improved protein metabolism.
Vitamin C .....	25 mg. for better hemoglobin formation and nuclear nucleic acid synthesis

For the younger patient who doesn't like to eat, or who eats out of balance, and for the adult who eats like a bird, one or two Stimavite Tastitabs daily, at mealtime. Can be chewed, swallowed whole, allowed to melt in the mouth, or dissolved in liquids.

Bottles of 30 and 100 Testitabs



Chicago, Illinois. BEACON of mind ATARAXIA

— 1 —

# LETTERS TO THE EDITOR

## Medical Fratricide

Due to subtle influences over which humanity has no control, the medical profession has fallen victim to the human frailties of the hedonist and the pragmatist. Men of medicine have been weighed in the balance of justice and have been found wanting in the nobler attributes of wisdom, understanding, and justice. Unfortunately many men in high places within our profession allowed their human weaknesses to overcome their medical virtues which guided men of medicine for centuries. The lofty status enjoyed by the 19th century doctors was purchased at much sacrifice and personal denial of power by the few for the good of the majority. Sad it is to relate that many so-called great and outstanding men of medicine have sought wealth or power as the sign of success in the medical world.

It was not for wealth or power that medical schools have been established. These institutions have as their primary purpose the education of a selected group of students to become doctors of medicine who will care for, treat and cure the sick, the wounded, the lame and the mentally disturbed. This is the primary purpose and *raison d'être* for a person to assume the toga of medicine. Every-

thing else is secondary and coincidental, least of all is wealth or dictatorial power.

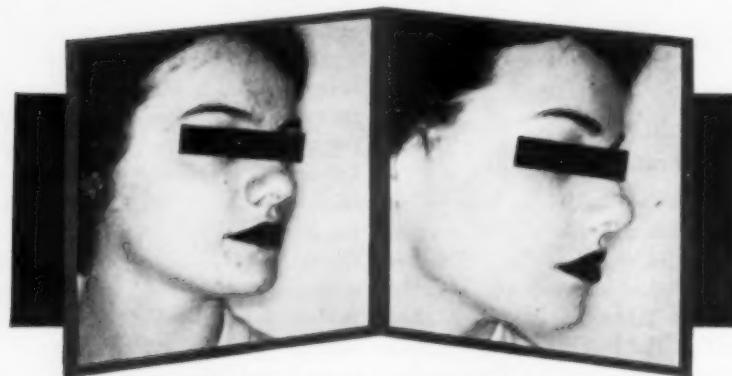
Unfortunately, many members of our profession have become medical businessmen. Their conversations have degenerated toward the evaluation of a patient in terms of dollars and cents. Some there are who balance the patient against his bank account. This group is a minority, but their numbers are sufficient enough to cast opprobrium upon the rest of the profession. Such men are degrading to a noble calling and should be corrected through local or state medical societies. This is a task those in control of our medical societies should pursue and evaluate. Incredibly as it may seem, many men of authority in medical societies close their eyes to the vicious business habits of doctors and expend their energies upon the acquisition of personal power.

More specifically this power is exerted in some specialty societies wherein one doctor will prevent the admission of another. This condemnation of his medical brother may or may not be justified, or may be based upon professional jealousy founded on business reasons. This attitude has divided doctors into many groups which have been aligned against each other either overtly or in silence. We are not a unified group as appears on paper. Contrarily, we are disunited by wedges of political power manipulated by a selected few who have achieved success by chicanery or medical nepotism. This primogeniture of successful power is acquired not by consanguinity but by vested politics founded upon an allodial dynasty which is more exclusive than the ancient order of Teutonic knights.

Any person of moderate intelligence

—Concluded on page 58a

see how **Fostex**<sup>®</sup> helps  
in treatment of acne



TREATS THEIR ACNE WHILE THEY WASH

IN ACNE, Fostex Cream and Cake degrease and degerm the skin...unblock pores...remove blackheads and help prevent pustule formation. Both the Cream and Cake are well tolerated. And...Fostex is easy to use...assures patient acceptance and cooperation. The patient *stops using soap* on the affected areas and *starts washing with Fostex*.

**Fostex effectiveness** is provided by Sebulytic<sup>®</sup> (sodium lauryl sulfoacetate, sodium alkyl aryl polyether sulfonate, sodium dioctyl sulfosuccinate), a new combination of surface active cleansing and wetting agents with remarkable antiseborrheic, keratolytic and antibacterial action, enhanced by sulfur 2%, salicylic acid 2% and hexachlorophene 1%.



Fostex Cream for therapeutic washing of skin in severe, oily acne. Also as a therapeutic shampoo in dandruff and oily scalp.



Fostex Cake for therapeutic washing of skin after acute phase of acne is controlled. Maintains skin dry and comedone free.

*Westwood*

PHARMACEUTICALS Division of Foster-Milburn Co.

467 Dewitt Street, Buffalo 13, New York

"Let's get the temperature down"



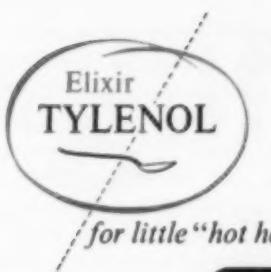
—your first reassuring words when the youngster is burning up with fever, malaise, general misery.

Let Elixir  
**TYLENOL®**

do this job for you—

with TYLENOL, fever, minor aches and pains vanish quickly—the child is more comfortable and mother's fears are allayed in a very short time.

TYLENOL is safe... "no evidence of side effects" from this efficient, well-liked antipyretic-analgesic—even on prolonged use<sup>1</sup>.



for little "hot heads"

**McNEIL**

LABORATORIES, INC., Philadelphia 32, Pa.

1. Cornely, D. A. and Ritter, J. A.: N-acetyl-p-aminophenol (Tylenol Elixir) as a Pediatric Antipyretic-Analgesic, J. A. M. A., 160:1219-1221 (April 7) 1956.



*Nausea and vomiting  
of pregnancy*

"Dramamine nevertheless proved more effective than other methods hitherto employed in the concededly difficult management of nausea and vomiting of pregnancy."

Cartwright, E. W.: Dramamine in Nausea and Vomiting of Pregnancy, *West. J. Surg.* 59:216 (May) 1951.

**Dramamine®**

Brand of Dimenhydrinate

**SEARLE**

## LETTERS TO THE EDITOR

—Concluded from page 55a

would suppose that the medical profession dedicated for centuries to work together in harmony for the public welfare would not attempt to destroy itself by internecine suicide which plays one colleague against another. Unbelievable as it may seem, this happens day after day in considering hospital appointments, society membership and admission to fellowships. In truth, on occasion, there seems to be more tolerance toward cultism by the medical profession than there is manifested by one medical group toward another. Thus intolerance grows when an individual doctor or group of them is accused of stepping on another's delicate, fragile sensibilities.

This belligerent attitude results in an irreparable damage to medicine as a profession. How can the laity admire a profession when its own members accuse each other of fraud, incompetence, deceit and other unspeakable acts! Rightfully may we ask who our greatest enemy is: disease or our nearest competitor.

The calumniating tongue used for exterminating a colleague is like a pendulum. It swings away from the originator but it returns with the same force used to propel it. Thus, uncontrolled calumny may be the precipitating act which may annihilate American medicine as we have known it in the past. This eradication of a noble ideal can be attributed directly to the terminal deadly sin called *medical fratricide*.

Bernard J. Ficarra, M.D.\*  
Roslyn Heights, New York

\* Director of the Department of Surgery,  
Roslyn Park Hospital.



highly effective—clinically proved

# Sigmamycin\*

OLEANDOMYCIN TETRACYCLINE

provides added certainty in antibiotic therapy particularly for that 90% of the patient population treated in home or office...

Multi-spectrum synergistically strengthened SIGMAMYCIN provides the antimicrobial spectrum of tetracycline extended and potentiated with oleandomycin to include even those strains of staphylococci and certain other pathogens resistant to other antibiotics.

Supplied: SIGMAMYCIN CAPSULES—250 mg. (oleandomycin 83 mg., tetracycline 167 mg.), bottles

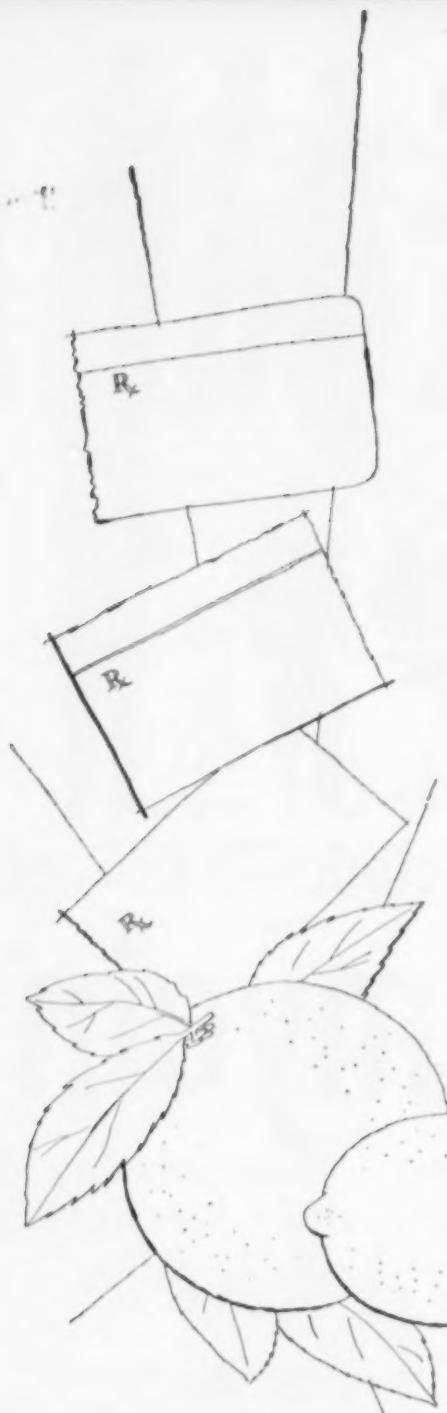
of 16 and 100; 100 mg. (oleandomycin 33 mg., tetracycline 67 mg.), bottles of 25 and 100; SIGMAMYCIN FOR ORAL SUSPENSION—1.5 Gm., 125 mg. per 5 cc. teaspoonful (oleandomycin 42 mg., tetracycline 83 mg.), mint flavored, bottles of 2 oz.

\*Trademark

PFIZER LABORATORIES, Brooklyn 6, N. Y.  
Division, Chas. Pfizer & Co., Inc.

World leader in antibiotic development and production





## THE MEDICINAL USE OF PECTIN N.F.

### DESCRIPTION

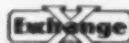
PECTIN N.F. is a purified polygalacturonic acid methyl ester.

### USES

- 1) Orally in gastrointestinal disorders: particularly bacillary dysenteries and diarrheas.
- 2) In bulk laxative preparations.
- 3) In pastes and ointments: for healing of wounds, burns and external ulcers.
- 4) In emulsions: for medication and as a stabilizer.
- 5) Postoperative bleeding: oral, topical or parenteral.
- 6) Plasma extender: clinical investigation has placed Pectin Sols high on the list of plasma extenders.
- 7) Pectin test meals: reportedly do not increase pepsin or acid production or alter the emptying time of the stomach.
- 8) The detoxication mechanism of pectin and its derivative galacturonic acid reduces many reactions caused by therapeutic or toxic agents.

### AVAILABILITY

Exchange Brand Pectins and Pectin Derivatives are supplied to pharmaceutical manufacturers and are available through them to the medical profession as therapeutic ingredients in specialty products.

 • PHARMACEUTICAL SALES





## Mediquiz

*These questions are from a civil service examination recently given to candidates for physician appointments in municipal government. Like to see how you would fare? Answers will be found on page 178a.*

1. The insect vector of Rock Mountain spotted fever is the: (A) tick; (B) louse; (C) mite; (D) flea.
2. Of the following, the test which is most valuable in the diagnosis of typhus fever is: (A) Paul; (B) Frei; (C) Widal; (D) Weil-Felix.
3. A patient weighing 70 kilograms is severely burned (25% of the body). The amount of daily nitrogen which would be required to maintain a positive nitrogen balance in such a patient is: (A) 5 grams a day; (B) 12 grams a day; (C) 20 grams a day; (D) 60 grams a day.
4. The one of the following conditions in which urobilinogen is likely to be absent in the urine is: (A) carcinoma of the head of the pancreas; (B) stones in the gall-bladder; (C) cirrhosis of the liver; (D) acute yellow atrophy of the liver.
5. The one of the following organs which normally elaborates acid phosphatase is the: (A) liver; (B) prostate gland; (C) bone marrow; (D) spleen.
6. The percentage of cases of carcinoma of the rectum in which a downward or retrograde spread occurs is most nearly: (A) 5%; (B) 50%; (C) 80%; (D) 90%.
7. The approximate amount of fluid excreted normally per day in the gastrointestinal tract is: (A) 520 cc; (B) 3200 cc; (C) 5200 cc; (D) 8200 cc.
8. To determine the degree of vaso-spasm in a case of thrombo-angiitis obliterans, you should: (A) take oscilometric readings; (B) perform an interdermal salt test; (C) immerse both forearms in water at a temperature of 50 degrees F for 20 minutes; (D) inject the posterior tibial nerve with 5 cc. of a 2% novocaine solution.
9. After ligating the inferior vena cava, the one of the following veins, or systems of veins, which does not take part in establishing collateral circulation is the: (A) ascending lumbar veins; (B) azygos veins; (C) inferior mesenteric veins; (D) internal vertebral plexus.
10. The one of the following substances which inhibits the production of prothrombin in the liver is: (A) heparin; (B) dicumarol; (C) vitamin K; (D) glucose.

# Orinase Prescription Information

**Dosage:** Patients responsive to Orinase may begin therapy as follows:

First day

3 Gm.



Second day

2 Gm.



Third day

1 Gm.



Usual maintenance dose 1 Gm.  
(must be adjusted to patient's response)

**To change from insulin to Orinase:**

If previous insulin dosage was less than

40 u./day . . . reduce insulin 30% to 50% immediately; gradually reduce insulin dose if response to Orinase is observed.

more than

40 u./day . . . reduce insulin 20% immediately; carefully reduce insulin beyond this point if response to Orinase is observed. In these patients, hospitalization should be considered during the transition period.

**Caution:** During the initial "test" period (not more than 5 to 7 days), the patient should test his urine for sugar and ketone bodies three times daily and report to his physician daily. For the first month, he should report at least once weekly for physical examination, blood sugar determination, and white cell count (with differential count, if indicated). After the first month, the patient should be seen at least once a month, and the above studies carried out.

It is especially important that the patient, because of the simplicity and ease of administration of Orinase, does not develop a careless attitude ("cheating" on his diet, for example) which may result in serious consequences and failure of treatment.

**Supplied:** In 0.5 Gm. scored tablets, bottles of 50.

*Complete literature available on request.*



THE UPJOHN COMPANY  
KALAMAZOO, MICHIGAN



## now available...

←  
save

**Upjohn**

# the new Oral antidiabetic agent

# ORINASE\*

Used investigationaly in more than 18,000 patients!

*(Tolbutamide, Upjohn)*

**Ready for your prescription now.** Orinase is now available in all leading prescription pharmacies. But please, before you prescribe this exciting new drug, be sure you understand its limitations.

**Indications.** Orinase is most likely to benefit the patient in whom the diabetes is relatively mild and stable, is not adequately controlled by dietary restrictions alone, and developed sometime after the age of 30 years.

**Contraindications.** Orinase is contraindicated in patients with 1) diabetes of the types known variously as juvenile, growth-onset, unstable, or brittle; 2) a history of diabetic coma; 3) diabetes complicated by ketosis, acidosis, coma, fever, severe trauma, gangrene, Raynaud's disease, or serious impairment of renal or thyroid function; 4) hepatic dysfunction; and 5) diabetes adequately controlled by dietary restriction.

**Effects.** In patients with a satisfactory response to Orinase, the blood sugar falls, glycosuria diminishes, and such symptoms as pruritus, polyuria, and polyphagia disappear. It is *not* a substitute for insulin. And it requires the same adherence to basic principles of diabetes control as does insulin, e.g., dietary regulation; tests for glycosuria and ketonuria; hygiene; exercise; in-

struction of the patient to recognize and counteract impending hypoglycemia, to follow rigidly directions regarding diet and continuing use of the drug and to report immediately to the physician any feeling of illness. Extreme care must be taken during the transition period to avoid ketosis, acidosis, and coma.

**Side effects.** To date, the most serious side effect is hypoglycemia, which may occur occasionally and is most likely to occur during the transition period from insulin to Orinase. Other untoward reactions to Orinase are rare, usually of a non-serious nature, and tend to disappear on adjustment of dosage, e.g., gastrointestinal disturbances, headache, variable allergic skin manifestations, and alcohol intolerance.

**Clinical toxicity.** Aside from an occasional hypoglycemia, Orinase appears to be remarkably free of gross clinical toxicity. There is no evidence of crystalluria or other untoward effects on renal function, or of hepatotoxicity. Except for a rare leukopenia of mild degree, which has been reversible (in some instances, even under continued therapy), there have been no adverse effects on hematopoietic function.

\*TRADEMARK, REG. U. S. PAT. OFF.

A NEW CONCEPT  
in the treatment of

# ACNE



VI-DOM-A-C Oral Tabs the most significant advance in 25 years in Vitamin Therapy based upon Vitamin Absorption through oral mucosa.

**VI-DOM-A-C Oral-Tabs** a new vitamin A and C combination specifically formulated for the treatment of ACNE.

"Our studies have shown conclusively that these vitamins are useful agents in correcting the follicular plugging present in acne vulgaris. Vitamin C is also beneficial in correcting iron deficiency anemia, a condition frequently present in adolescent patients . . . Vitamin C and A proved to be more beneficial to acne patients when given simultaneously instead of separately." (1)

The buccal mucosal absorption of both vitamins A and C eliminates gastric destruction and liver deposition. VI-DOM-A-C Oral-Tabs harbor no detergents or dispersing agents, are pleasantly flavored and dissolve slowly for efficient absorption through buccal mucosa. They contain 50,000 USP units of synthetic Vitamin A, 500 mg. Vitamin C and are available in bottles of 25 and 100.

### VLEM-DOME is Your Modernized, Supportive Topical Treatment for Acne

#### **VLEM-DOME™**

— the Modernized Vleminckx's Solution . . . "one of the most valuable applications in the control of popular and pronounced acne vulgaris." (2) VLEM-DOME in combination with VI-DOM-A-C Oral-Tabs constitutes the ideal topical plus systemic therapeutic courses for your ACNE patients: TWO potent treatment forces to eradicate the fear of pitting and scarring . . . too frequently a psychosomatic factor in later life.

VLEM-DOME Powder Packets are boxed in 12 and 100 packets and in bulk powder 4 oz. containers.



**DOME Chemicals Inc.**  
109 West 64th St., New York 23, N. Y.

IN CANADA 5333 QUEEN MARY RD., MONTREAL, P. Q.

#### REFERENCES

- (1) S. M. Bluefarb, M.D. "The Management of Acne Vulgaris in the 12 and 17 Year Age Group", Postgraduate Medicine, 19:144, Feb., 1956.
- (2) S. W. Becker and M. E. Obermayer, Modern Dermatology and Syphilology, 2nd Edition.

11. On entering the abdominal cavity from the chest, the relationship of the two vagi nerves usually is: (A) right vagus enters behind the esophagus and is distributed to the posterior surface of the stomach while the left vagus is on the anterior aspect; (B) right vagus lies on the anterior surface and the left vagus on the posterior surface; (C) both vagi lie on the posterior aspect of the stomach; (D) both vagi lie on the anterior surface of the stomach.

12. In the case of complete portal vein block, most of the portal blood is then conveyed to the parenchyma of the liver by the: (A) hepatic vein; (B) hepatic artery; (C) esophageal veins; (D) middle hemorrhoidal veins.

13. A patient with a gastro-jejunocolic-fistula suffers rapid weight loss and diarrhea. These symptoms can most likely be attributed to: (A) loss of food from the stomach into the colon; (B) loss of hydrochloric acid from stomach into the colon; (C) improper diet; (D) the irritation set up by the entrance of colonic gases and contents into the stomach and duodenum.

14. Of the following micro-organisms, the one which is resistant or slightly susceptible to penicillin activity in vitro is: (A) gonococcus; (B) bacillus coli; (C) Staphylococcus aureus; (D) Clostridium welchii.

15. Following a severe convulsion, as in electric shock therapy, the patient complains of persistent mediastinal pain. This is most likely the result of injury to: (A) pleuropulmonary mechanism; (B) cardiac mechanism; (C) bony skeleton; (D) peripheral nerves.

16. The one of the following which

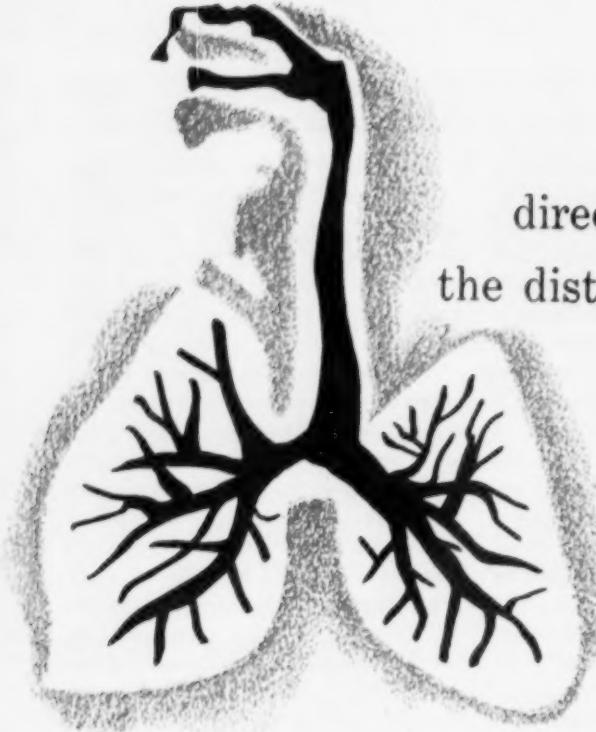
is most likely to be encountered as evidence of a lesion complicating a fracture of the olecranon is weak or absent power to: (A) extend wrist; (B) abduct the thumb; (C) spread the fingers; (D) flex the interphalangeal joints.

17. The one of the following lesions in which dyspnea accompanied by cyanosis of the face and neck is most likely to be present several hours after injury is: (A) tear of the ligamentum nuchae; (B) crushing injury of chest; (C) fracture of the fifth cervical vertebra; (D) dislocation of the jaw.

18. The most efficient of the following measures to bring about early relief of circulatory embarrassment accompanying a grossly displaced supracondylar fracture is: (A) reduction of the displaced fracture fragment; (B) flexion of the elbow; (C) extension of the elbow; (D) immobilization and elevation of the arm without reduction.

19. A patient is admitted with a severely crushed pelvis. He is in profound shock. The one of the following procedures which is most likely to be of little or no help in evaluating the intactness of his genito-urinary tract is: (A) injection and attempted withdrawal of sterile saline from the bladder; (B) retrograde cystography; (C) catheterization; (D) intravenous pyelography.

20. The one of the following in which atrophy of the deltoid is not a characteristic concomitant is: (A) long standing rupture of the supraspinatus tendon; (B) chronic subdeltoid bursitis due to calcium deposit; (C) long standing painful acromioclavicular arthritis; (D)



direct action against  
the distressing  
symptoms of  
bronchial  
asthma

# Luasmin

*Capsules and Enteric Coated Tablets*



Theophylline  
Sodium Acetate  
0.2 Gm.

Increases efficiency of  
circulation and respiration

Ephedrine  
Sulfate  
30 mg.

Relaxes bronchial tree and  
relieves mucosal congestion

Phenobarbital  
Sodium  
30 mg.

Provides mild  
sedation

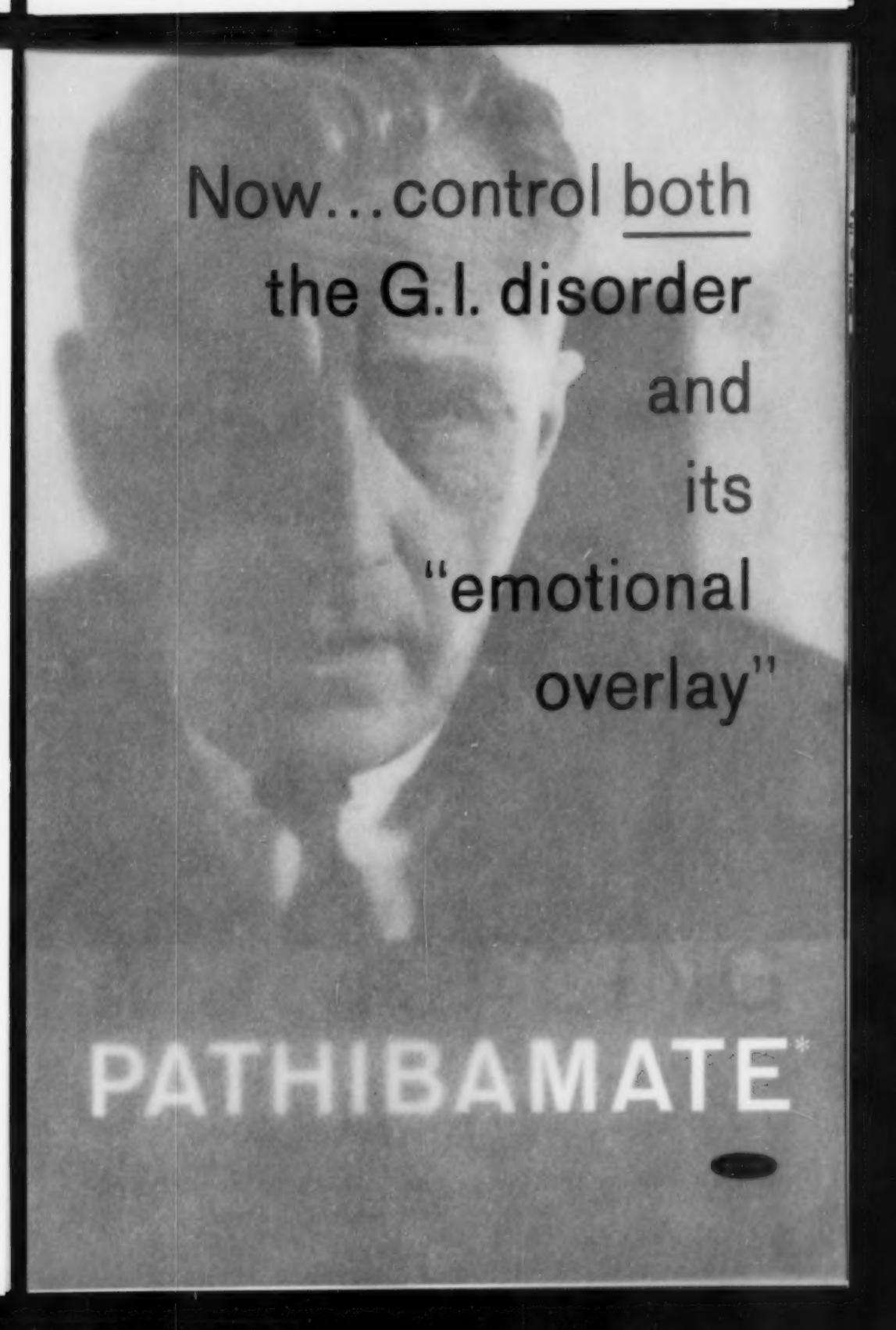
An established formula, Luasmin supplies three ingredients which provide the practical symptomatic approach in the treatment of bronchial asthma.

Taken before bedtime, a capsule and a tablet usually assure a full night's sleep. During the day, Luasmin capsules bring prompt relief.

*Brewer*  
Est. 1852

*Samples and literature on request*

**Brewer & Company, Inc.**  
Worcester 8, Massachusetts, U.S.A.



Now...control both  
the G.I. disorder  
and  
its  
"emotional  
overlay"

**PATHIBAMATE\***

Now... control both

the distressing  
direct action against

the disorder

bad

asthma

emotional

"overday"  
Luasmin

Capsules and Enteric Coated Tablets

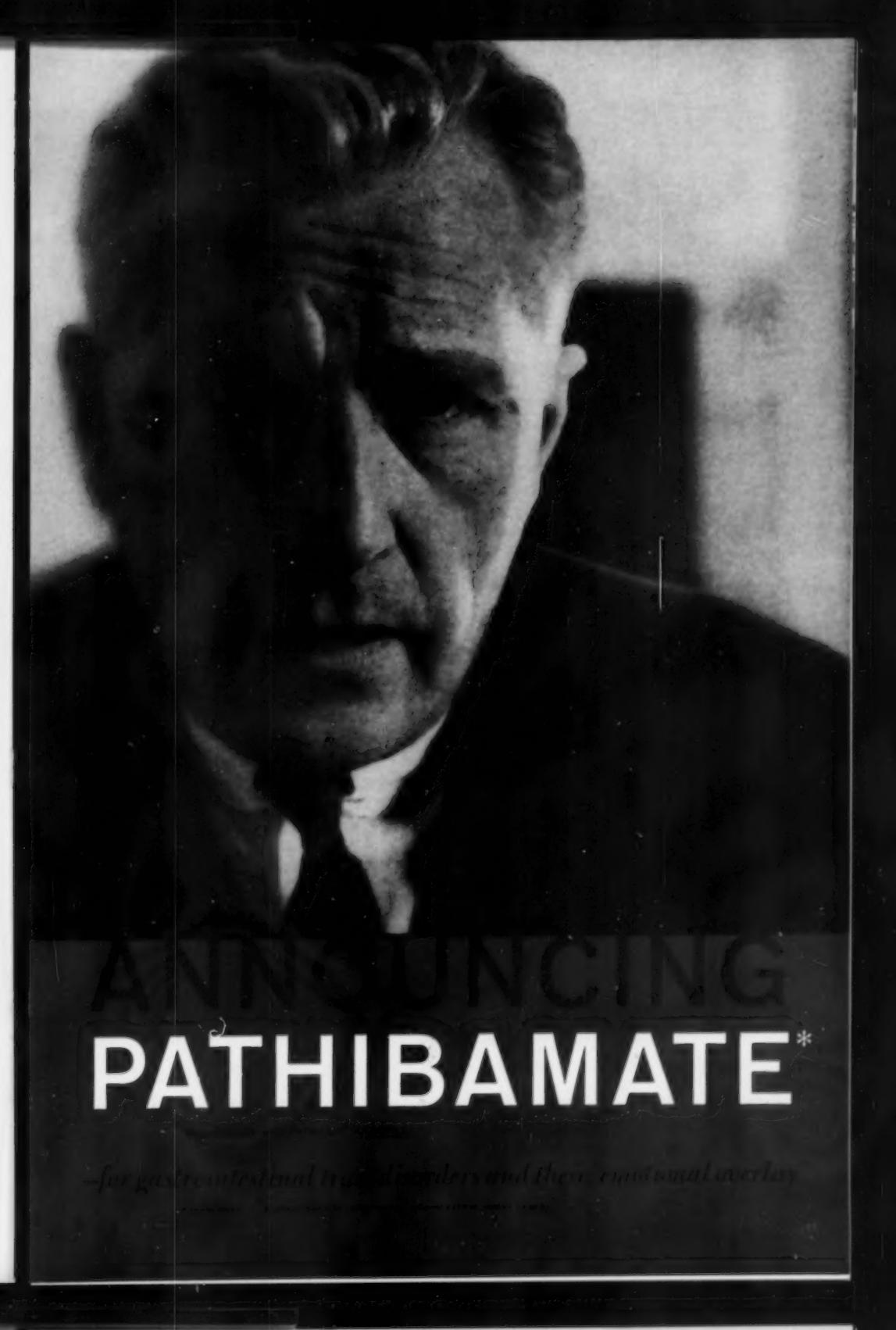
An established formula, Luasmin supplies three ingredients which provide the practical symptomatic approach in the treatment of bronchial asthma.

Taken before bedtime, a capsule and a tablet usually assure a full night's sleep. During the day, Luasmin capsules bring prompt relief.

*Brewer*  
Est. 1880

Samples and literature on request

Brewer & Company, Inc.  
Wellesley 8, Massachusetts, U.S.A.



# ANNOUNCING **PATHIBAMATE\***

*for gastrointestinal tract disorders and their craniomaxillary*

# PATHIB

## *combines Meprobamate (400 mg.):*

Widely prescribed tranquilizer-muscle relaxant. Effectiveness in anxiety and tension states clinically demonstrated in millions of patients. Meprobamate acts only on the central nervous system. Does not increase gastric acid secretion. It has no known contraindications, can be used over long periods of time.<sup>1,2,3</sup>

## *with Pathilon (25 mg.):*

An anticholinergic noted for its extremely low toxicity and high effectiveness in the treatment of G.I. tract disorders. In a comparative evaluation of currently employed anticholinergic drugs, PATHILON ranked high in clinical results, with few side effects, minimal complications, and few recurrences.<sup>4</sup>

*Now...with PATHIBAMATE...you can control disorders of the digestive tract and the "emotional overlay" so often associated with their origin and perpetuation...without fear of barbiturate loginess, hangover or addiction. Among the conditions which have shown dramatic response to PATHIBAMATE therapy:*

DUODENAL ULCER • GASTRIC ULCER • INTESTINAL COLIC  
SPASTIC AND IRRITABLE COLON • ILEITIS • ESOPHAGEAL SPASM  
ANXIETY NEUROSIS WITH G.I. SYMPTOMS • GASTRIC HYPERMOTILITY

## Comments on PATHIBAMATE from clinical investigators

• "I find it easy to keep patients using the drug continuously and faithfully. I feel sure this is due to the desirable effect of the tranquilizing drug."<sup>5</sup>

• "The results in several people who were previously on belladonna-phenobarbital preparations are particularly interesting. Several people volunteered that they felt a great deal better on the present medication and noted less of the loginess associated with barbiturate administration."<sup>6</sup>

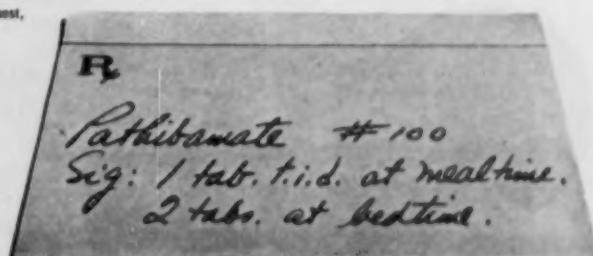
• PATHIBAMATE ... "will favorably influence a majority of subjects suffering from various forms of gastrointestinal neurosis in which spasmodic manifestations and nervous tension are major clinical symptoms."<sup>7</sup>

• "In the patients with functional disturbances of the colon with a high emotional overlay, this has been to date a most effective drug."<sup>8</sup>

**References:** 1. Borris, J. C.: *M. Clin. North America*, In press, 1957. 2. Gillette, H. E.: *Internat. Rec. Med. & G. P. Clin.* 169:453, 1956. 3. Pennington, V. M.: *J.A.M.A.*, In press, 1957. 4. Cayer, D.: Prolonged Anticholinergic Therapy of Duodenal Ulcer. *Am. J. Dig. Dis.* 1:301-309 (July) 1956. 5. McGlone, F. B.: Personal Communication to Lederle Laboratories. 6. Texier, E. C., Jr.: Personal Communication to Lederle Laboratories. 7. Bauer, H. G., and McGavack, T. H.: Personal Communication to Lederle Laboratories.

**Supplied:** Bottles of 100 and 1000

**Administration and Dosage:** 1 tablet three times a day at mealtimes and 2 tablets at bedtime. Full information on PATHIBAMATE available on request, or see your local Lederle representative.



*As with mother's milk . . .*

## Vitamins and Minerals

S-M-A contains all the vitamins and minerals known to be required by normal infants—in amounts more than adequate to meet the recognized needs of health and growth.

S-M-A is protected by processing techniques that preserve all these essential factors.

For free distribution to expectant mothers in your practice, Wyeth offers a Mother's Gift of S-M-A (Liquid or Instant Powder). For your supply, write on your prescription pad to Wyeth Laboratories, Department M, P.O. Box 8299, Philadelphia 1, Pa.



# S-M-A®

Concentrated Liquid  
Instant Powder



Philadelphia 1, Pa.

*for sound infant nutrition*

chronic suppuration in the shoulder joint.

21. The one of the following to which hip pathology most frequently produces referred pain is the: (A) buttock; (B) groin; (C) knee; (D) lateral side of the thigh.

22. The one of the following muscle groups which is of least importance in producing the characteristic displacement of a subtrochanteric fracture of the femur is the: (A) lesser glutei; (B) ilio-psoas; (C) external rotators; (D) gluteus maximus.

23. The one of the following lesions most commonly characterized by the sudden onset of complete inability to actively extend the interphalangeal joint of the thumb as a late complication is: (A) Colles' fracture; (B) carpal scaphoid fracture; (C) fracture through base of first metacarpal; (D) complex dislocation of first metacarpophalangeal joint.

24. An injured ankle shows the following fractures by x-ray: a transverse fracture of the medial malleolus and a fracture through the junction of the middle and lower one-third of the fibular shaft. Neither fracture is displaced sufficiently to require reduction. Of the following, the lesion most likely to result in persistent pain and disability is: (A) fracture of the medial malleolus; (B) fracture of the fibula; (C) associated ligamentous damage; (D) aseptic necrosis of the talus.

25. Of the following, the most common cause for continued elevation of temperature, pulse, respiration, white blood count and erythrocyte sedimentation rate during the first two weeks following a simple comminuted fracture of the femoral shaft treated by traction is:

(A) local tissue damage; (B) venous complications; (C) pulmonary complications; (D) the effect of traction upon the extremity.

26. Heberden's nodes are characteristic of: (A) rheumatoid arthritis; (B) gout; (C) osteoarthritis; (D) rheumatic fever.

27. Tuberculous arthritis is characteristically: (A) monarticular in distribution and usually evidences very little inflammation, i.e., heat and redness; (B) polyarticular in distribution and usually involves the smaller joints; (C) associated with high fever and involvement of the temporomandibular joints; (D) associated with an involvement of the great toe.

28. Of the following skin diseases, the one with which rheumatoid arthritis is frequently enough associated to be recognized as a clinical syndrome is: (A) herpes; (B) psoriasis; (C) seborrhea; (D) scabies.

29. Of the following the correct statement is: (A) rheumatoid arthritis is predominantly a disease of the female sex, the incidence being roughly three-to-one greater among females; (B) patients with rheumatoid arthritis are generally about evenly distributed between male and female. The disease shows no sex predominance; (C) Marie Struempell spondylosis (rheumatoid spondylosis) shows a marked difference in sex distribution, the disease affecting females in a ratio to males of about ten to one; (D) gout does not occur more frequently in males than in females, the sex distribution being about equal.

AZOTREX is the only  
urinary anti-infective  
agent combining:

- (1) the broad-spectrum antibiotic efficiency of TETREX—the original tetracycline phosphate complex which provides faster and higher blood levels;
- (2) the chemotherapeutic effectiveness of sulfamethizole—outstanding for solubility, absorption and safety;
- (3) the pain-relieving action of phenylazodiamino-pyridine HCl—long recognized as a urinary analgesic.

## control of urinary through comprehensive

Literature and clinical supply  
on request

Bristol

LABORATORIES INC., SYRACUSE, NEW YORK

This unique formulation assures faster and more certain control of urinary tract infections, by providing comprehensive effectiveness against whatever sensitive organisms may be involved. Indicated in the treatment of cystitis, urethritis, pyelitis, pyelonephritis, ureteritis and prostatitis due to bacterial infection. Also before and after genitourinary surgery and instrumentation, and for prophylaxis.

In each AZOTREX Capsule:

TETREX (tetracycline phosphate complex) ... 125 mg.

Sulfamethizole ..... 250 mg.

Phenylazo-diaminopyridine HCl ..... 50 mg.

Min. adult dose: 1 cap. q.i.d.

# tract infections

**tetracycline - sulfonamide - analgesic action**

**otrex**<sup>TM</sup>  
CAPSULES

*now available*  
**Compazine®**



- for tranquility with remarkable freedom from drowsiness and depressing effect
- for rapid control of nausea and vomiting

With both 5 mg. and 10 mg. tablets available, easier dosage adjustments are now possible.

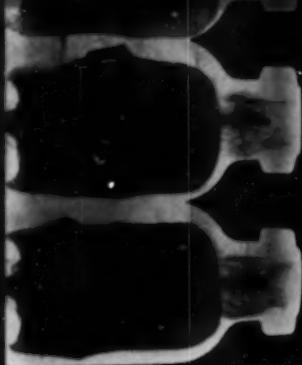
Most patients respond well to one 5 mg. 'Compazine' Tablet three or four times daily.

In some cases, it may be necessary to increase the dosage to one 10 mg. 'Compazine' Tablet three or even four times a day.

For further information see available literature.

*Smith, Kline & French Laboratories, Philadelphia*

★T.M. Reg. U.S. Pat. Off. for prochlorperazine, S.K.F.



to try it .....





**fastest acting local anesthetic -  
as safe as it is effective**

How safe is Xylocaine? In five years, over 500,000,000 injections of Xylocaine HCl Solution have been given. "The apparent clinical safety of Xylocaine is gratifying, for without this quality, its additional properties would not warrant an enthusiastic report . . . . The truth of the matter is, however, that Xylocaine approaches the ideal drug more closely than any other local anesthetic agent we have today."\*

How effective is Xylocaine? It produces more rapid, complete, and deeper anesthesia than other local anesthetics used in equivalent doses. It gives a wide area of analgesia. Its long duration of action reduces the need for additional injections.

**....is to use**

**XYLOCAINE®**

How does Xylocaine fit into my practice? For *local infiltration anesthesia*, it is used routinely in minor surgical procedures such as closure of lacerations, removal of cysts, moles, warts; treatment of abscesses; and in the reduction of fractures.

For *therapeutic interruption of nerve function by temporary nerve blocks*, it is used in herpes zoster, subdeltoid bursitis, fibrositis, myalgia of shoulder muscles, and periarthritis due to trauma. The relief of pain in these conditions at times appears to be the most important part of treatment.

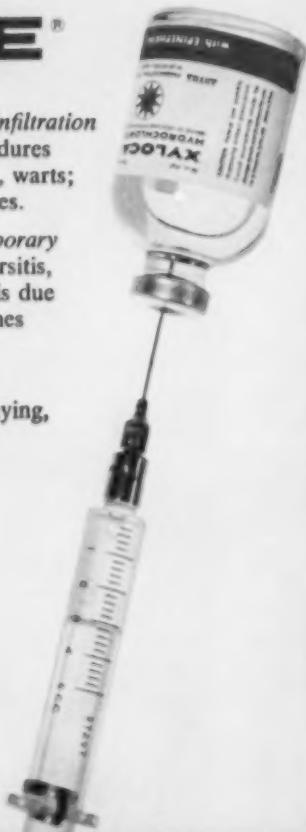
The *topical anesthetic* properties further enhance its usefulness. Topical anesthesia can be obtained by spraying, by applying packs, by swabbing, or by instilling the solution into a cavity or on a surface.

Available in 2 cc. ampuls, 20 cc. and 50 cc. vials, in strengths of 0.5%, 1% and 2%, with or without epinephrine.

Bibliography of approximately 300 references upon request.

\*Southworth, J. L., and Dabbs, C. H.: Xylocaine: a superior agent for conduction anesthesia, *Anesth. & Analg.* 32:159 (May-June) 1953.

**Astra Pharmaceutical Products, Inc., Worcester 6, Mass.**



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## MODERN MEDICINALS

These brief resumes of essential information on the newer medicinals, which are not yet listed in the various reference books, can be pasted on file cards and a record kept. This file can be kept by the physician for ready reference.

**Abdol w/Minerals (Children's),** Parke, Davis & Co., Detroit, Michigan. Capsules containing combination of vitamins and minerals for the prevention and treatment of multiple vitamin and certain mineral deficiencies in children. **Dose:** As directed by physician. **Sup:** Bottles of 100.

**Albutest,** Ames Company, Inc., Elkhart, Indiana. New colorimetric tablet test for the detection of albumin in the urine. Presence of protein is indicated by a color change on the surface of the tablet, to which a drop of urine has been added. The intensity of the color is in proportion to the amount of protein present. A negative urine does not cause a color change. Color photographs are supplied with the tablets as a guide to reading results. **Sup:** Bottles of 100 and 500.

**Bidrolar,** The Armour Laboratories, Kankakee, Illinois. Orange coated tablets, each containing  $\frac{2}{3}$  grain dioctyl sodium sulfosuccinate purified, 1 grain ox bile extract N.F. Indicated for the treatment of constipation. **Dose:** As directed by physician. **Sup:** Bottles of 100.

**Compazine Ampul Solution,** Smith, Kline & French Laboratories, Philadelphia 1, Pennsylvania. Ampuls, each containing 2 cc. prochlorperazine S.K.F., as the ethane disulfonate. In-

dicated, when oral administration of Compazine is not feasible, in hyperemesis gravidarum and other nausea and vomiting of pregnancy, and in mild to severe nausea and vomiting associated with viral gastroenteritis, post-operative conditions, psychogenic factors, migraine and tension headaches, duodenal ulcer, terminal cancer, meningeal inflammation, radiation therapy and nitrogen mustards. **Dose:** As directed by physician. **Sup:** Packages of 6 each and 100 each.

**Comycin,** Upjohn Company, Kalamazoo, Michigan. Capsules, each containing 250 mg. tetracycline phosphate complex with 250,000 units nystatin. Indicated in infections caused by tetracycline-sensitive organisms, also especially indicated where monilial infections are most likely to complicate broad-spectrum antibiotic therapy. **Dose:** 1 capsule four times daily. **Sup:** Bottles of 16 capsules.

**Dorbantyl Suspension,** Schenley Laboratories, Inc., New York 1, New York. Pleasantly flavored liquid evacuant, each teaspoonful of which contains 25 mg. of Dorbane and 50 mg. dioctyl sodium sulfosuccinate (equal to one DORBANTYL CAPSULE). Indicated, where a liquid evacuant is preferable to capsule medication, in the management and treatment of

—Concluded on page 78a

announcing

# MARSILID

(Iproniazid)

'Roche'

**Q.** How does Marsilid act?

**A.** Marsilid (iproniazid) is an amine oxidase inhibitor which has a normal eudaemonic\* rather than an abnormal euphoric effect; it promotes a feeling of well-being and increased vitality; it restores depleted energy and stimulates appetite and weight gain in chronic debilitating disorders.

**Q.** How soon is the effect of Marsilid apparent?

**A.** Marsilid is a slow-acting drug. In mild depression it usually takes effect within a week or two; in severe psychotics, results may be apparent only after a month or more.

**Q.** What are the indications for Marsilid?

**A.** Mild depression in ambulatory, non-psychotic patients; psychoses associated with severe depression or regression; stimulation of appetite and weight gain in debilitated patients; chronic debilitating disorders; stimulation of wound healing in draining sinuses (both tuberculous and non-tuberculous); adjunctive therapy in rheumatoid arthritis when associated with depressed psychomotor activity (Marsilid stimulates physical and mental activity, appetite and weight gain without objective joint changes).

\*Eudaemonia is a feeling of well-being or happiness; in Aristotle's use, felicity resulting from life of activity in accordance with reason.

## **a psychic energizer**

**(the opposite of a tranquilizer)**

**Q.** What is the dosage of Marsilid?

**A.** The daily dose should not exceed 150 mg (50 mg t.i.d.). In patients who are not hospitalized, the dosage should be reduced after the first 8 weeks to an average of 50 mg daily or less. Marsilid is a cumulative drug requiring careful individual dosage adjustment.

Side effects due to Marsilid are reversible upon reduction of dosage or cessation of therapy. It may cause constipation, hyperreflexia, paresthesia, dizziness, postural hypotension, sweating, dryness of mouth, delay in starting micturition, and impotence.

**Q.** When is Marsilid contraindicated?

**A.** Marsilid is contraindicated in overactive, overstimulated or agitated patients. Marsilid therapy should be discontinued two days before the use of ether anesthesia. It should not be given to epileptic patients, or together with cocaine or meperidine.

Marsilid is supplied in scored 50-mg, 25-mg and 10-mg tablets.

**MARSILID® PHOSPHATE** — brand of iproniazid phosphate (1-isonicotinyl-2-isopropylhydroxine phosphate)

**HOFFMANN-LA ROCHE INC • NUTLEY 10 • NEW JERSEY**

acute or chronic constipation. **Dose:** As directed by physician. **Sup:** Bottles of 150 cc.

**E.F.A.**, The Columbus Pharmacal Company, Columbus 16, Ohio. Essential fatty acids and anti-lipemic factors in highly palatable form. Each tablespoonful (15 cc.) contains 50% soybean oil, 300 mg. soybean lecithin, and 6 mg. pyridoxine hydrochloride. Indicated for clinical control of hypercholesterolemia in atherosclerosis, coronary heart disease and diabetes. **Dose:** 1 to 2 tablespoonfuls t.i.d. **Sup:** Bottles of one pint.

**Equanil 200 mg.**, Wyeth Laboratories, Inc., Philadelphia, Pennsylvania. New reduced-strength tablets. Indicated for relief of anxiety, tension, insomnia and muscle spasm. **Dose:** As directed by physician. **Sup:** Snap cap bottles of 50.

**Harmonyl**, Abbott Laboratories, North Chicago, Illinois. New alkaloid of *rauwolfia canescens*, identified as 11-desmethoxyreserpine. Available in tablets of 0.1 mg., 0.25 mg., and 1 mg. Indicated for tranquilizing disturbed or overaggressive patients, also for management of mild essential hypertension and as a supplement to more potent agents in severer cases. **Dose:** As directed by physician. **Sup:** 0.1 mg. and 0.25 mg. tablets in bottles of 100, 1 mg. tablets in bottles of 50.

**Miltown (New Dosage Form)**, Wallace Laboratories, New Brunswick, New Jersey. Now available in a sugar-coated 200 mg. tablet. Used as a muscle-relaxant as well as a tranquilizer, where smaller doses are indicated. **Dose:** As directed by physician. **Sup:** Bottles of 50.

**Neoparbel**, The Central Pharmacal Company, Seymour, Indiana. Tablets, each containing 50 mg. pamabrom, 30 mg. pyrilamine maleate, 1.2 mg. homatropine methylbromide, 0.1 mg. hyoscyamine sulfate, 0.02 mg. scopolamine hydrobromide, and 1.5 mg. methamphetamine hydrochloride. Indicated for treatment of primary dysmenorrhea, primary dysmenorrhea associated with premenstrual tension, and premenstrual tension. **Dose:** As directed by physician. **Sup:** Bottles of 30, 100 and 500.

**Neo-Tarcortin Ointment**, Reed & Carnick, Jersey City, New Jersey. Combination of hydrocortisone, neomycin and special coal tar extract (Tarbonis). Indicated for treatment of dermatoses in which infection is present or anticipated and for dry, scaly eczemas. **Use:** As directed by physician. **Sup:** Tubes of 7-gram or 1-ounce.

**Peritrate Sustained Action**, Warner-Chilcott Laboratories, Morris Plains, New Jersey. New long-acting tablet form of Peritrate (pentaerythritol tetranitrate) combining 20 mg. of Peritrate (plain) with 60 mg. of Peritrate in a special wax base, which gradually releases the ingredient over a twelve-hour period. Indicated for round-the-clock protection against attacks of angina pectoris. **Dose:** 2 tablets daily. **Sup:** Bottles of 100 and 500.

**Suavitil**, Merck, Sharp & Dohme, Division of Merck & Co., Inc., Philadelphia 1, Pennsylvania. In the treatment of mild anxiety states associated with obsessive-compulsive reactions, and in psychoneurosis with a depressive reaction. **Dose:** As directed by physician. **Sup:** 1.0 mg. scored tablets in bottles of 100.

AN ADVANCE



in the treatment of vaginitis

## new... simple... effective... topical therapy

**Clinical evidence** shows Sterisil Vaginal Gel to be highly effective not only against Trichomonas and Monilia, but against the newly discovered pathogen *Hemophilus vaginalis* (now believed to be the etiologic organism most frequently responsible for so-called "non-specific" vaginitis and leukorrhea).\*

**High tissue affinity** of Sterisil assures prolonged antiseptic action; vaginal secretions are less likely to remove Sterisil from the site of application. Sterisil is also more convenient for the patient. Fewer applications are required for successful treatment.

**Acceptable to patients**, Sterisil Vaginal Gel is easily applied, won't leak or stain, requires no pad. Signs of local or systemic toxicity or sensitization have not been reported.

**Dosage:** One application every other night until a total of 6 has been reached. This treatment may be repeated if necessary.

**Supplied** in 1½ oz. tube with 6 disposable applicators. Instructions for use are included with each package.

\*Gardner, H. L., and Dukes, C. D.: Am. J. Obst. & Gynec. 69:962 (May) 1955.

# STERISIL<sup>®</sup> VAGINAL GEL

Brand of hexetidine

WARNER-CHILCOTT

**MERCK SHARP & DOHME**  
announces an important  
new "psychotropic" agent

# 'SUAVITIL'

(BENACTYZINE HYDROCHLORIDE)

An entirely new approach to the medical problem of mild anxiety states, tension, depression and compulsion.

'SUAVITIL' relieves anxiety without producing depression or drowsiness . . . assists patients to deal more constructively with the situations which produced such anxiety.

'SUAVITIL' differs fundamentally from any of the substances currently used in this field. 'SUAVITIL' has been reported to be, in many cases, the only agent indicated in the treatment of depression.

'SUAVITIL' causes no euphoria and leaves the quality of thinking virtually unchanged. It imposes no sedation and has no hypnotic effect, although it relieves sleeplessness by reducing repetitive thinking (futile rumination).

#### **What it is**

'SUAVITIL' (benactyzine hydrochloride) is a centrally acting psychotherapeutic agent with selective activity on various functions of the brain. It is believed to act essentially by inhibiting the transmission of nerve impulses between neurons.

'SUAVITIL' may best be described as an antiphobic, antiruminant, "mood normalizer". It has been extensively used in England and Denmark, and clinicians report that it effectively relieves tension,

anxiety and depression in a majority of their psychoneurotic patients. Subjective benefits have been described by patients in the following terms: "I feel calm"; "It is a feeling of well-being"; "I feel soothed".

#### **What it does**

'SUAVITIL' offers a new and specific type of neurochemical treatment for the patient who is disabled by anxiety, tension, depression, or obsessive-compulsive manifestations—whether the anxiety is founded in fact or whether it has become a neurotic state, out of proportion to environmental stimuli.

#### **Absorption and tissue distribution**

'SUAVITIL' is well absorbed and rapidly distributed in all tissues. Except for CNS tissue it is rapidly metabolized out of all other tissues. Onset of effect is rapid, within 20 to 30 minutes.

### Essentially nontoxic

No toxic effects have so far been reported in 300 clinical cases taking up to 40 mg. a day for several months. In man, single oral doses as high as 90 mg. have been taken without evidence of toxic effects. Chronic toxicity studies in animals have shown no signs of drug toxicity. Urine, plasma, liver and heart studies have all been within normal limits.

### Indications

'SUAVITIL' Tablets are specifically recommended in the treatment of mild anxiety states associated with obsessive-compulsive reactions. The efficacy of 'SUAVITIL' in these indications is unique. Some "tranquilizers" not only are of limited or no value but in many cases are contraindicated because they may produce or deepen depression.\*

'SUAVITIL' is of value in the treatment of mild anxiety, tension and depression, accompanying functional disorders such as dysmenorrhea, the menopause, psychosomatic disorders of the gastrointestinal tract, psychogenic asthma, compulsive drinking, various dermatoses, preoperative apprehension and inadequate personality.

'SUAVITIL' may often be useful when used together with other agents in the total management of psychoneurosis.

'SUAVITIL' has a subtle action. Since the onset of the drug's effect is smooth and without major emotional upheaval, the patient must be evaluated objectively for favorable response. In contrast, disorientation, confusion, and neuro-

logical disturbances are frequently encountered in association with the administration of "tranquilizers". These changes may occur abruptly, and cause discomfort and embarrassment to the patient.

**Recommended Dosage** — Initially, one tablet (1.0 mg.) three times a day for two or three days. This dosage may be gradually increased to 3 mg. three times a day until beneficial results are obtained. These results may appear soon after initiation of therapy or they may be delayed for a week or two.

When 'SUAVITIL' is given to replace a barbiturate, the barbiturate should be gradually withdrawn over a period of four to seven days to enable the effect of 'SUAVITIL' to become established. No addiction or withdrawal symptoms have been observed with 'SUAVITIL'. Mild atropine-like side effects may be encountered early in treatment, but are inconsequential and disappear rapidly.

'SUAVITIL' like other anticholinergic agents, should not be used in conditions such as glaucoma. It should be administered with caution for conditions other than those specifically mentioned under "indications" above.

### Supplied

'SUAVITIL' (benactyzine hydrochloride) is supplied in bottles of 100 scored tablets, each tablet containing 1.0 mg. of benactyzine hydrochloride.

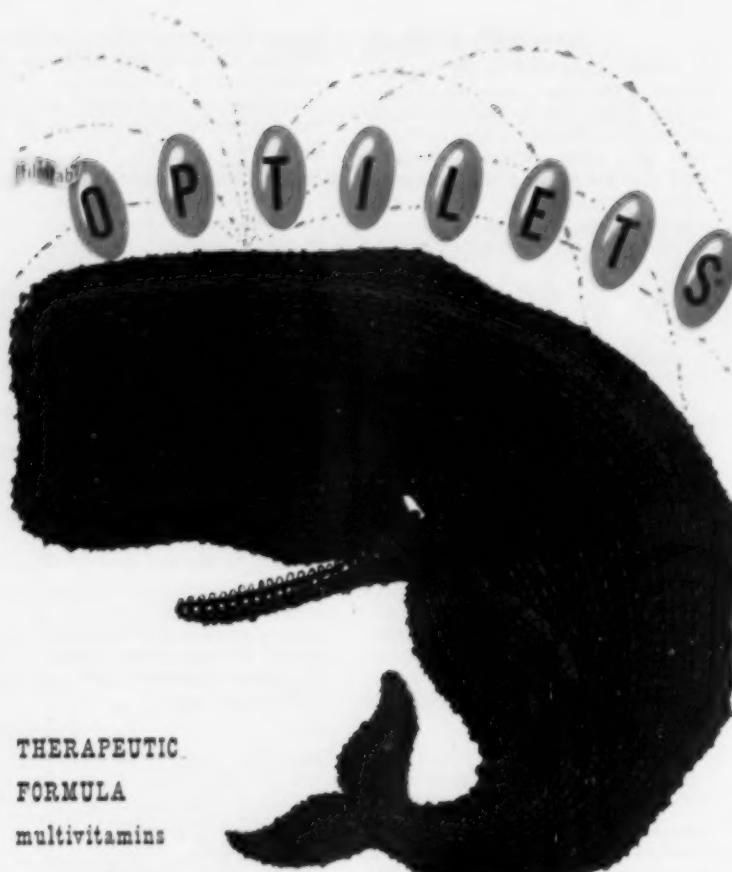
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\*'SUAVITIL' is a trademark of Merck & Co., Inc.



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# Control of Pain In Rectal Carcinoma

**The use of intravenous polyvinylpyrrolidone and formaldehyde sulfoxylate therapy.**

LAURENCE G. BODKIN, M.D., F.A.C.S.  
Brooklyn, New York

When a case of carcinoma reaches the inoperable stage, nothing more can be done other than control pain. This in itself can be a difficult problem. We are all familiar with the failure of the combinations of analgesics and narcotics.<sup>1</sup> We know that we have often been forced to turn to the more severe procedures such as hemichordotomy, nerve block, deep x-ray or the use of radioisotopes. We all have the feeling that we wish there were much more we could do.

It has been my experience and it must certainly have been yours, to have reached this point where even narcotics give no relief. We have all used morphine, codeine, Demerol, Pantopon, Laevodromoran tartrate and Teropterin in larger and larger doses without easing the patient's pain. I have had the experience of writing prescriptions for one hundred or two hundred tablets of morphine or Pantopon at a time.

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Read before the Brooklyn Surgical Society,  
January 3, 1957.

(Vol. 85, No. 6) June 1957

I no longer write such prescriptions.

In an effort to find some way to control that pain, this research was done. It was hoped that some way could be found to make these people more comfortable, even though their lives could not be saved. Surprisingly enough, something can be done. Nearly a year ago, while searching for an agent that might cause necrosis in rectal carcinomas, I came across a chemical combination that stopped pain.

This relief from pain lasted anywhere from several days to several weeks. In a few instances, it has been as long as eight months. The cases under study were those of carcinoma of the rectum or colon that had been declared inoperable. They were inoperable because they had metastases to other organs, or because they had a carcinomatous mass so fixed to the pelvis or spine that it could not be removed. Altogether 22

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\* St. Mary's Hospital, Brooklyn, New York, and Carson C. Peck Memorial Hospital, Brooklyn, New York.

cases were observed. The form of treatment for their pain was a simple one. Intravenous therapy was used, resembling the ordinary intravenous of saline and glucose. The agent used was polyvinylpyrrolidone, sodium formaldehyde sulfoxylate, the oxidation-reduction products thereof which are polyvinylpyrrolidone alcohol and sodium bisulfite complex of formaldehyde, the macromolecular polymers formed by the action of the reduction products as catalysts, in a physiological solution adjusted for parenteral administration. Polyvinylpyrrolidone was the blood plasma substitute that was used in Germany during World War II. It is an inert substance composed of heavy molecules and it remains in the circulation for a long time.<sup>2</sup>

The usual concentration of the polymeric constituents is 3.5 to 5 percent and that of the reducing agent 6 percent. Treatments were given in the hospital.\* Five hundred cc. of this solution was administered slowly over a period of four hours. A second or even a third injection may be given.

No ill effects were noted although a few patients had slight nausea or vomiting. A report of sugar in the urine, in a few cases, was proven to be wrong. It was found that formaldehyde was being excreted by the kidneys, and that this gave a positive Fehling Benedict reaction, since it was a reducing agent. No changes in temperature or pulse were noted. The treatment apparently had no harmful effects. In each of these cases, some relief from pain occurred. In 17 patients, relief was most satisfactory and continued for several weeks and even months. In the cases that were declared unsatisfactory, the relief was brief, only a matter of days,

and could not be improved upon even by repeated injections. It was noted that the ones that responded unsatisfactorily were those who had previously received deep-x-ray therapy. Those who had not had x-ray treatments responded well and responded quickly. In fact most of them obtained relief within 48 hours. Incidentally, the point mentioned here does not condemn x-ray therapy. As a matter of fact, if small amounts of x-ray therapy are used, and sodium formaldehyde treatment is then given, we may very well find that we have a strong combination to aid us in this work. Necrosis and slough of carcinoma tissue were observed following their use. Another interesting finding was made during this research. Patients who had been using narcotics over a long period of time and who had to some degree become addicted to their use, no longer asked for the narcotics after the pain stopped. Of course, at this point, all sedatives were withdrawn.

It is not easy to explain just how this treatment works. Formaldehyde is not a sedative or an anesthetic. It may destroy small nerves as does alcohol when used as a nerve block. I believe that I do know how the medication reaches the carcinoma, and how it is localized there. Over a period of a few years, I had the opportunity of studying PVP with a blue dye—indigo carmine—and in 1954 reported my observations to this Society. I found that when PVP and the blue dye were injected intravenously the material localized in the carcinomatous tissues and did not remain in any of the normal tissues.<sup>3</sup>

The carcinoma tissue became deeply blue colored, enough to observe and even to photograph with Kodachrome.

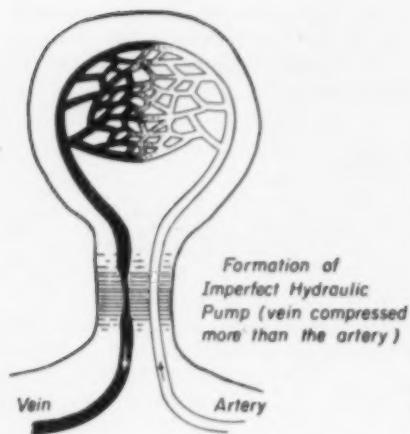


Figure 1

This occurred because the heavy inert molecules of PVP became partially trapped in the structure of the carcinoma. It is my opinion that the structure of a carcinoma is different from that of any other tissue in the body and that we can take advantage of this difference. It must be different because it is able to grow, invade, and kill. No other structure that we know of does just this.

If one examines the surface of a rectal carcinoma with a magnifying lens he will see that the tumor is a mass of polypoid structures. Each polyp has a narrow point of entrance and exit via

the pedicle. (See Diagram—Fig. 1)

The thick, heavy molecular fluid (PVP) is forced in under arterial pressure. It leaves with greater difficulty and some is trapped within the polyp. Its course is influenced by well known principles of physics. With all this in mind, the heavy molecules are sent through the blood stream, with the thought that they will slow down as they pass through this tissue, or become caught in it and its reticulo-endothelial tissue, and there lose part of the burden that they are carrying.<sup>3</sup> In this case the burden is an active chemical, formaldehyde.

Sodium formaldehyde is known to be a protein precipitant.<sup>4</sup> It may precipitate the protein within the connective tissue of the carcinoma or the protoplasm of the carcinoma cell. It may affect the fine nerve endings which I believe must lead into the base of this painful carcinoma structure. We know that sodium formaldehyde can either kill or attenuate viruses or bacteria. It undoubtedly has the same effect upon most living tissues when it is in prolonged contact with them. If formaldehyde is localized in the carcinoma tissue by this process as was the blue dye, I believe that the formaldehyde can have a definite and positive local effect.

### Summary

**1. Intravenous therapy, comprising PVP and sodium formaldehyde sulfoxylate has been found to relieve the pain of late inoperable carcinoma of the rectum or colon.**

**2. Twenty-two patients in private practice have been intensively studied.**

**3. Relief was satisfactory in seventeen cases: it was unsatisfactory in five.**

**4. The patients who did not respond well were those who had previously received deep x-ray therapy. It is believed, however, that x-ray therapy may yet be com-**

bined satisfactorily with this chemotherapy. The combination can produce marked necrosis and slough.

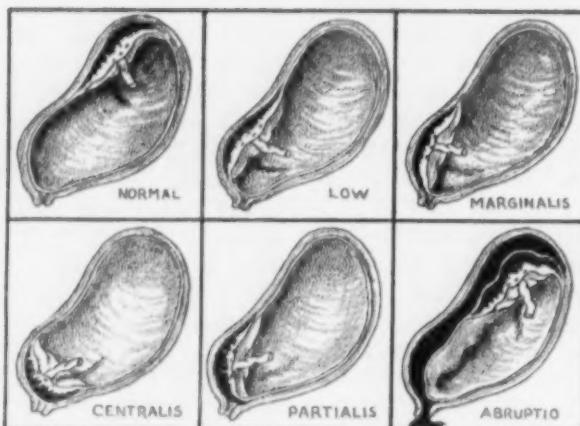
5. This therapy has been used solely for the treatment of pain. It has no effect upon the course of the disease.

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80 Hanson Place

### Clini-Clipping



Positions occupied by the normal placenta, varieties of placenta previa and placenta abruptio.

# Mental Deficiency

This summarization attempts to cover the essential information on the subject and is designed as a time-saving refresher for the busy practitioner.

Mental deficiency is not a clinical entity but rather a symptom or a category of symptoms present in a large number of diseases with varying etiologies and found in one to two per cent of the population. It may be defined as the interference with development of intellectual capacity resulting in social inadequacy<sup>2</sup> or incomplete and inadequate mental development which may be expected to result in incapacity for independent social adaption.<sup>1</sup> It is primarily a social problem, however, to the physician it presents a formidable problem of etiology and prognosis.

Mental deficiency is synonymous with retardation and implies that the patient's intelligence has developed at a slower rate and that the patient's lack of capacity and capability has been present in the past and will be so in the future.<sup>3</sup> Backward children slow in passing developmental milestones remain backward. Gesell states that practically every case can be diagnosed during the first year of life except those that occur from secondary causes later in life.

The main purpose of this paper is to give an outline for the "work up" of mental retardation so that appropriate

measures can be initiated. A brief discussion of various etiologies will follow the classification by Herman Yannet as found in Nelson's *Textbook of Pediatrics*. (See chart on following page).

## I. Prenatal

### A. Hereditary

1. *Familial Mental Deficiency*: 35-45% of institutional defectives and 60-70% of all mental defectives. A commonly seen chart (see page 613) indicates the nature of hereditary transmission which is believed to be the cumulative effect of many independent genetic determinants.<sup>4</sup>

The etiology of this type of deficiency becomes apparent by the examination of the parents and siblings. The intellectual defect is apparent in situations involving abstract learning and verbal facility. Benda has found an increased number of CNS developmental defects and Malamud has indicated that pneumoencephalography might aid in the etiological diagnosis.<sup>5</sup>

2. *Hereditary Idiocy*: Probably a recessive trait is involved since the parents are average. Diagnosis must be confined to those cases in which two or more siblings are idiots or low imbeciles.

## A Clinical Classification of Mental Retardation

### I. PRENATAL

#### A. Hereditary

1. Familial mental deficiency
2. Hereditary idiocy
3. Phenylpyruvic oligophrenia
4. Congenital ectodermosis
5. Heredo-degenerative cerebral diseases
6. Muscular dystrophy
7. Cranial anomalies

#### B. Infection

1. Congenital Syphilis
2. Toxoplasma encephalitis
3. German measles

#### C. Maternal irradiation

#### D. Encephalopathy associated with Kernicterus

1. Rh, ABO
2. Non-specific

#### E. Etiology not definitely established

1. Mongolism
2. Cretinism
3. Congenital cerebral palsy
4. Undifferentiated or primary amentia

### II. BIRTH TRAUMA (Anoxia, vascular, injuries, phlebostasis, etc.)

### III. POSTNATAL

1. CNS infection
2. CNS trauma
3. CNS vascular disorders
4. Poisoning
5. Recurrent convulsions

3. *Phenylpyruvic Oligophrenia*: 1% of institutionalized defectives. Defect is in the metabolism of phenylalanine where phenylalanine is not oxidized to tyrosine. Phenylpyruvic acid is easily detected by adding five to ten drops of 10% ferric chloride to five ml. of urine. 80% of these effected are blue eyed and blond, many have eczema.

4. *Congenital Ectodermosis*: This Mendelian dominant trait comprises about 0.3 to 0.5% of institutionalized defectives. There are three closely related conditions.

A. *Tuberous sclerosis*. In young infants delay in development may be the only finding. Slightly raised, small,

pinkish white soft lesions soon appear on both cheeks and occasionally scattered over the trunk. These are fibro-angioma. The phakoma or mulberry-like retinal tumor is also seen in infancy. Sebaceous adenoma and convulsions occur later and circumscribed periventricular calcifications may be noted by the seventh year.

B. *Neurofibromatosis* is an occasional cause of retardation. The neurofibromata may vary from the smallest, barely perceptible cutaneous growth to grotesque overgrowth.

C. *Cerebral angiomas* (Sturge-Weber). Cutaneous hemangiomas, especially of face and forehead associ-

ated with angiomatic neoplasia of cerebral cortex. Radiographic findings consist of serpentine calcified areas that tend to follow the cortical gyri. Convulsions are unusually present.

5. *Heredo-degenerative cerebral diseases:* These presumably represent metabolic defects of a highly specialized enzymatic nature. The white matter or ganglion cells are primarily affected. The diseases commonly mentioned in this group include Amaurotic Familial Idiocy, Demyelinating Encephalopathy, Hepatolenticular Degeneration, and the Degenerative Ataxias.

6. *Muscular Dystrophy:* The relationship between muscular dystrophy and cerebral malfunction is not understood. It is probably a sex linked recessive characteristic.

#### 7. *Cranial Anomalies:*

A. Primary microcephaly. A Mendelian autosomal recessive. The low cranial vault with normal circumference and a backward sloping forehead is characteristic.

B. Craniostenosis. Two most common are oxycephaly, in which the coronal suture is affected causing a short head with a blunt top, and scaphocephaly in which the sagittal suture closes causing the narrow long head.

C. Hypertelorism. The eyes are widely separated and the root of the nose depressed. Usually associated with

a high incidence of congenital heart anomalies.

#### B. *Infection*

1. *Congenital Syphilis:* Less than 0.2% of defectives. The usual stigmas of rhagades, saddle nose, bossing of head, Hutchinson's teeth, etc. may be combined with spastic paralysis, incoordination, pupillary changes, and deafness.

2. *Congenital toxoplasmosis*—mild hydrocephalus or microcephalus, intracranial calcifications, and chorioretinitis are the usual presenting symptoms.

3. Rubella may produce microcephaly, motor defects, cataracts, congenital heart disease with deaf mutism.

C. *Maternal Irradiation* may produce microcephaly and marked mental retardation.

D. "Kernicterus" is responsible for 1% of institutionalized defectives. With Rh iso-immunization there are two neurological patterns. One is an asymmetrical spastic quadriplegia with atrophy. The second is a hypotonia of varying degrees and cerebellar dysfunction.

E. *Prenatal causes* of mental deficiency in which the etiology is not established.

1. Mongolism occurs 3-4 per 1000 births. The characteristics are well known. A. Levison discusses the variability of these traits in *Pediatrics* 16:43. Mongoloid children represent about 10% of hospitalized defectives.

Parents	Number of Children	Distribution of Mental Status of Siblings			Average
		Defective	Inferior	Average	
Defective X defective	111	57%	39%	4%	
Defective X inferior	81	35%	55%	10%	
Inferior X inferior	274	15%	57%	28%	
Inferior X average	93	3%	33%	64%	

2. Cretinism is perhaps the only endocrine disorder that is related to mental deficiency and an all-out attempt at diagnosis should be made. In the congenital cretin, the chance for a normal development and opportunity is good, provided therapy is begun in the first few months of extra-uterine life, and is maintained without omission until the patient's death.<sup>7</sup> Cretinism is usually influenced favorably by replacement therapy with thyroid. The dosage of desiccated thyroid substance will vary from individual to individual and should be pushed to an optimal effect or to tolerance, whichever is lesser.

First 8 months: 0.1 to 0.2 grains = 6-12 mg. daily.

Up to second year: 0.75 grains = 49 mg. daily.

From then on dosage may be regulated as in the adult forms of myxedema. Periodic roentgenographic examination, blood iodine determination, blood cholesterol estimations and metabolism tests should be made.

It is evident that the case of the cretin requires constant attention so that his dose of thyroid may be large enough at all times, yet not too large.<sup>8</sup>

The thyroid products most frequently prescribed are Thyroid USP (Lilly and Parke Davis), Proloid (Warner-Chilcott) and Thyrap (Armour Laboratories).

Experimental work is now being carried out with the recently introduced Liothyronine (Cytomel, Smith, Kline & French) to determine its usefulness in the treatment of cretinism. It is suggested that therapy be initiated with daily doses of 5 mcg., and increments of 5 to 10 mcg. per day made gradually at weekly intervals until a satisfactory response is obtained. The most frequently

used maximum dosage seems to be approximately 50 mcg. per day.

Some clinicians recommend administration of thyroid in pregnancy when there is even the slightest evidence of hypothyroidism, since if this policy is rigidly carried out few cretins may be born.

3. As with all classifications there must be a "waste paper diagnosis" for those which have no differentiating characteristics. Primary amentia or "undifferentiated" is applied to about 30% of defectives. The diagnosis is that of exclusion. The PEG may have definite place in this group.<sup>6</sup>

## II. Birth Trauma

Birth trauma as a causative agent in mental deficiency represents 3.9% and the diagnosis is usually made by history.

## III. Postnatal

Postnatal conditions include a formidable list as suppurative and non-suppurative CNS infections, post-immunization reactions, trauma, cerebral thrombosis, cerebral hemorrhage, asphyxia, and poisoning.

## Conditions Which Resemble Mental Deficiency

Failure to adjust socially or follow normal paths of development may resemble mental deficiency. There are four main groups.

1. Delay in educational maturation. The so-called "educational readiness" includes many aspects as attention span, personal relations, and socialization status. Adequate psychologic study readily allows for recognition and study. There may be as much as 2-3 year maturation delay.

2. Specific defects: Visual and auditory defects must be examined for High Tone deafness, visual defects of a cortical nature such as congenital or ac-

quired word blindness, aphasias due to cortical abnormalities, and expressive and receptive aphasias must all be ruled out.

3. Psychogenic factors: Psychological techniques may suggest such basic difficulties as deep seated emotional disorders and accompanying behaviors and personality disturbances.

4. Psychotic states: Bizarre and unexpected behaviorisms may resemble mental deficiency. A history of normal development merging imperceptibly and without physical cause into grossly abnormal patterns associated with a tendency to lose acquired verbal accomplishments and to withdraw from personal contacts suggest a diagnosis.

The work-up for mental deficiency is based on the following:

I. *Family History.* Hereditary tendencies and evidences of parental and sibling intelligence. Family lateness in certain developmental fields as walking, talking, and sphincter control. The parental attitude and management of the child should be investigated. Emotional deprivation, over training and under training may all affect the apparent mental growth.

II. *Prenatal infection, nutrition, health, paternity, blood typing and obstetrical care* should be determined.

III. *Obstetrical and neo-natal course:* The length of gestation, length and type of labor, anesthesia, analgesia, use of forceps, presentation, resuscitation, asphyxia, cyanosis, hemorrhage, convulsions, etc. may aid in making an etiological diagnosis. Birth trauma may cause an apparently mental defective individual but Illingsworth<sup>4</sup> stresses that the prognosis must be guarded since a proportion of these children may sud-

denly begin normal developmental patterns.

IV. *Developmental history* carefully elicited may be used as an accurate measurement of mental deficiency. Numerous charts are available but norms should be known.

V. Growth patterns should also be included in the work-up.

VI. *Physical examination* should be complete, of course, but of particular importance are the general appearance, shape of skull, measurements, weight, muscle tone, neurological exam, and funduscopic. The premature should be given the proper allowance for retardation.

VII. *Laboratory aids* are limited by the history and physical but a CBC, urinalysis, skull films and wrist X-rays should be routine. A urine for phenylpyruvic acid and a Wassermann may be indicated. Subdurals and/or spinal taps have to be considered as does radioiodine uptake if the clinical condition warrants. The electroencephalogram seldom aids in the differential but the pneumoencephalogram may well establish the diagnosis.

VIII. *Consultations:* Psychologists aid in differentiating those cases which simulate mental deficiency and are able to grade the degree of deficiency. It would seem that those trained in the use of the Gesell and Stanford-Binet tests would be indispensable in work-up. Ophthalmology and Otolaryngology add their techniques. The psychiatrist, the social worker and finally the educator should also be considered as indispensable aids to patients present and future.

Unless the cause of mental deficiency is obvious and the degree of impairment severe, the problem of each defective should be handled by a group of ad-

visors consisting of at least the Pediatrician, psychologist, social worker, and educator.

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### "Professional Liability" Subject of New A.M.A. Film on Doctor-Lawyer Relations

The second film in the A. M. A.—American Bar Association series on "Medicine and the Law" will deal with prevention of professional liability action, it was announced recently by Dr. George F. Lull, secretary and general manager of the A. M. A. Titled "The Doctor Defendant", the film will be available from the A. M. A. Film Library for medical society or association showings, beginning July 1st.

The new film dramatically presents four case reports of situations which caused legal action against physicians. In reviewing these alleged malpractice cases, the 30-minute black and white sound film also demonstrates how a professional liability committee functions.

"The Doctor Defendant" is a companion film to "The Medical Witness," which depicts right and wrong methods of presenting medical testimony by reenacting a personal injury trial. It was named by The New York Times as one of the best 16 mm. films produced in 1956. A 30-minute black and white sound film, it was also selected by the Golden Reel Film Festival as one of the five best films on professional education. It has broken records for number of medical society showings and audience sizes to date, according to the A. M. A. Film Library.

Medical societies and associations are urged to arrange advance booking dates now for "The Doctor Defendant" for 1957 and 1958 showings. "The Doctor Defendant" can also be booked together with "The Medical Witness" as part of a legal medicine seminar.

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# Medicine's Stepchildren

**WALLACE MARSHALL, M.D.**  
Two Rivers, Wisconsin

While collecting manuscripts from a large group of country doctors for a recent attempt to have a volume published on rural practice, I invited the famous and beloved actor, Mr. Jean Hersholt, to contribute a short article. The entire nation was stunned recently by the death of this distinguished and benevolent person.

So that his contribution will not become lost, I am including his article in this manuscript. Mr. Hersholt was the epitome of everything fine and courageous during his long acting career during which time he portrayed the beloved Dr. Christian, a country doctor. Consequently, he became the idol of a countless number of Americans, young and old alike . . .

The warm spring rains flooded the road from Deer Park to Vinegar Bend. Most of the highways in southern Alabama were marked by posts with small flags to help the driver of cars learn where the roads were. My car edged forward slowly. I hoped fervently that it would keep moving as the water crept to the car doors. I passed over a bridge which also was under water.

There was a musty scent in the balmy

Alabama atmosphere. Spring in the deep South makes a person feel mighty happy to be alive in spite of the flooded condition of the roads with much of the landscape under water. The mocking birds extolled the jubilance of Spring from many a tree and post.

A doctor has time to think of many things while he makes rural house calls. It never dawned on me that country practice would present so many diversified and important events which had never been mentioned in those many medical textbooks I had read during my formal training. No medical volume had explained how a woman with a placenta praevia miles in the country should be treated adequately in the country farmhouse. Nor had I been taught how to take care of a tuberculous man with pulmonary hemorrhage who refused hospitalization and who lived in a hut in a turpentine swamp miles from any hospital.

I had practiced previously in a fair-size city having very adequate hospital facilities and plenty of competent medical assistance and equipment. But, in some sections of southern Alabama, I treated patients in homes which were

## Hollywood's Country Doctor

Through my fictional interpretations of the country doctor, I have come to understand and appreciate the service he renders his nation both in peace and war. I have come to realize that true-life drama is the rule rather than the exception in the country doctor's life. With the burden of his own particular world on his shoulders, he finds himself the central character of many melodramas.

To me, one word describes the American country doctor simply: dedication. To everything of importance to human life, to the mercy of healing, to the joy of birth, to the hours of death, to the faith of the maimed, and to the despair of the diseased, he stands alone as a personal messiah that most every citizen has at some time or another looked to with hope and assurance.

My work as a fictional doctor started many years ago with the role of Dr. Hochberg in "Men in White." This sincere and moving character provided the incentive for me to seek further roles as a medico.

The part of Dr. Allan Roy Dafoe followed in "The Country Doctor." During the filming of this movie, in Callander, Ontario, I became well acquainted with Dr. Dafoe, and thereby developed a friendship that lasted until his untimely passing. I attempted to

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devoid of the simplest furniture. A flashlight was a must, because electricity was not available in many homes. Nevertheless, a sincere "thank you" was always given whenever it came time to leave. The doctor very seldom went away from a house call without a freshly baked piece of cake or some sort of a small gift from his appreciative patients.

These people did not enjoy many of the advantages which are the good fortune of others who reside in different and more lucrative portions of our great country. Yet these grateful Alabamians learned to share what they had with even a stranger such as myself. This rich experience gave me the impetus to write this article so that proper attention might be given to this highly im-

portant matter of rural practice with its many facets of interest.

Years have passed since my Alabama experiences. In my present location, I still make house calls in the country. And I can assure all my readers, who have not had the opportunity of doing similar work, that they are missing some very rich and gratifying experiences. It does not take a physician long to discover the hardships along with the decided pleasures which are connected with rural practice. Most country folks possess an abundance of sincere compassion for their neighbors and friends who are unfortunately ill. No time has to be spent by the doctor to argue over the merits or the demerits of the last issue of some monthly layman's publication which attempts to teach the pub-

make my portrayal a tribute to the good doctor and all he stood for. This most famous of rural physicians did much, during his lifetime, to promote the good name and dignity of his profession.

It was the part of Dr. Dafoe, which I interpreted in two additional movies, that led to the creation of my role as radio's "Dr. Christian." I think it can, without false modesty, be said that in his eighteen years of "practice," the old doc has become a very real person to many people. He's received thousands of communications requesting medical and domestic advice, and has even been cited by the American Medical Association! As much as I have tried to discourage fans from asking Dr. Christian such advice, they still continue to do so. My only explanation is that the character must personify the doctor in their own community, and with such a relationship in mind, people have come to build up their own particular faith in the principles he represents.

The almost unbelievable story of a child who kept repeating the name of Dr. Christian, as she came out of the anaesthetic following major surgery, and the beneficial results when her doctor assured her that he was Dr. Christian, is only one of many like experiences that come in the mail.

Such faith in a mythical country doctor is a tribute to all rural men of medicine . . . the men who operate with their hearts as well as their hands.

—Jean Hersholt

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lic "do it yourself medicine." These country folks are quite content to allow the practice of medicine to remain in the hands of their family doctor. I only wish the same situation were true in the urban centers, where so many housewives apparently think they know more about medical procedures than do their family doctors.

Rural practice can be considered as a specialized form of general practice. The country doctors follow usually the same therapeutic procedures as do their urban general practitioner colleagues. The main difference appears to be the fact that the rural doctor must conduct his practice with a paucity of equipment and personnel. Time and distance are also of prime importance. Many times he is confronted with little or no

assistance from his medical colleagues, who may be many miles away and in an opposite part of the county when a consultation might be needed.

I gave a talk a few years ago in a small hospital in Alabama. A few of these doctors had not seen each other for nearly a year. They were the only two doctors in their entire county and each physician's practice covered about an 80 mile radius. They had to work day and night in order to keep up with their staggering load of daily work. And rarely did they have time for such a luxury as a medical meeting. When these rural doctors left their practice, no other colleague was available to handle their work.

This lack of desirable chances for consultations with colleagues necessarily

places the country doctor purely and completely on his own. He is forced to make important decisions on the spot in certain emergencies. His efforts may become taxed severely because it is necessary many times to obtain satisfactory results without diagnostic aids and trained personnel which are quite commonplace in most urban areas. Much assistance, however, can come from other rural colleagues if an opportunity, such as attending a medical meeting, were to take place. However, these doctors are so overworked that they just do not have time for medical meetings. Hence, many rural doctors have found it necessary to drop their memberships in the American Academy of General Practice. They could not leave their practice in order to attend meetings in order to acquire their study requirements for their membership.

As the old saying goes: "necessity is the mother of invention." Perhaps in no other field of medical practice is this more true than in the daily practice of rural medicine. Improvisation, born of necessity, becomes rather a commonplace procedure with country practice, for one must get along with what he has available in such an exhausting and an exacting type of work. And many times the answer to the rural doctor's questions cannot be found in medical journals or textbooks. Obviously, new and highly valuable approaches to the many varied problems in rural practice are produced because of his own experiences and effort. These novel and highly serviceable procedures should be made available to the many other medical colleagues who are engaged also in country practice. The rural originators should have these suggestions or discoveries published in suitable med-

ical journals. Unfortunately, such avenues are not, for one reason or another, open to him.

What a positively refreshing event would be the appearance of these rural practitioners on the scientific programs tendered by any state society! An entirely fresh approach to many stereotyped considerations of disease could do much to break the monotony of many a routine medical meeting. Furthermore, the country doctor could emerge from such activities as an authority in his own right and in his own field of interest which is concerned with rural practice. Obviously, the country doctor desires to have all the many advantages which are available from an urban practice. But, many times his patients are too poor to avail themselves of adequate urban hospital care. These country folks need medical care just as badly and perhaps more so than do their urban counterparts. And their only source for medical care comes from the country doctor and his capable colleagues.

The many Hill-Burton hospitals, built by federal government funds, have accomplished much for the benefit of both the public and our rural medical confreres. These rural hospitals have become a decided boon to the cause of rural medicine, since many doctors can use these excellently equipped centers also to treat out-patients. It is much easier for country folks to bring their patients to these hospitals. Consequently, the wear and tear on our rural medical colleagues is and will continue to become lessened. Country house calls are so time consuming. Furthermore, the rural doctor cannot bring all the necessary equipment and facilities to the farmhouse. By far the best procedure is to have patients consult their rural phy-

sicians in these centers or at the doctors' offices. Beneficial results will be observed from this simple but highly efficacious procedure, I am sure, especially when more and more rural folks get used to this rather new idea. The physical exertion upon the doctors will become lessened, and I believe the passing of time will prove that our rural doctors will have their life spans lengthened as the direct result of this highly sensible procedure.

Specialization in medical practice is a *fait accompli*! This specialization has affected metropolitan practices very definitely, particularly with hospital staff procedures. This change has not, fortunately, affected those doctors who practice in most of the rural areas of our nation.

Recently, an editor of a nationally well-known medical journal claimed that rural practice is just about a thing of the past. He cited the improvements in automobile transportation as one of the factors for causing this supposed decline of rural medicine. He claimed that hospital insurance, which so many persons possess, brings these people to the cities for hospital care. According to this editor, only those physicians who are advanced in years remain to carry on these declining rural practices.

I cannot agree with this learned colleague. Every point made by him is open to serious questioning as to its veracity. The only correct statement is found in the obvious fact that improved highways have made it easy for the rural populace to go to the urban centers for treatment. But by the same token, rural physicians are now able to make more house calls so much easier with a definite saving of time. Further-

more, the Hill-Burton hospitals, of which there are many, have so improved the status of rural practice that these hospitals are now in a position to challenge the excellent type of medical care which is and has been available in the many urban medical centers.

If rural medical care has improved so markedly because of the advent of these Hill-Burton hospitals, why then, one may ask, are these rural doctors Medicine's Stepchildren?

I have been giving much of my time to an intimate study of these conditions which are connected closely with rural practice. This work has been followed for several years. During my visits to interview some of these rural medical colleagues, I have been most pleasantly surprised to learn that so many intelligent and highly qualified young doctors have become attracted to many of these out-of-the-way rural locations.

For many years I have been harboring the feeling that no volume which deals with the practice of medicine had been published which dealt adequately with the many topics which have to do with rural practice. Accordingly, I attempted to get a well-known publisher interested in publishing such a volume. Over 400 rural doctors were invited to write chapters which dealt with the many facets in rural medicine. At length, over 60 of these doctors submitted their writing assignments, and this material was forwarded to a medical book publisher. After some delay, he informed me that he could not publish the volume because the material did not approach the perfection he desired. Furthermore, the cost of production did not warrant the chance for the book's pecuniary success.

It had been my own concern that

such a costly publishing project might not succeed. It takes big names to put over the financial success with such a book. The medical profession might not be interested in purchasing the works of unknown authors. Consequently, executives of other publishing firms refused to publish the volume, and the project was dropped.

In spite of our inability to get this proposed book published, interest in this worthwhile project remains exceedingly high among almost all the authors who wrote for this volume. All these physicians feel that this project has many merits and that measures should continue to get the volume in print. But since this work has been very costly in time and finance to me, it could not be continued. The marvelous interest and the cooperation given by almost every author was most outstanding. Our writers consisted mainly of small town rural doctors, although a few specialists handled some of the more intricate topics such as the skin diseases and certain surgical subjects.

The nature of the material contained in the articles written by these rural physicians was concise, highly practical and applicable, and it contained the most important aspects of the subjects which were covered by each author. These findings brought out a rather interesting point. Specialists and general practitioners alike have identical sources for needed information on almost every subject. Such sources of information come from various journals and textbooks, unless certain outstanding authorities happen to record their own research findings from their personal studies. Hence, the information which both specialists and rural physician record in their papers comes from

easily accessible published sources which are available to all doctors. Such sources for medical information causes one to ponder over the question as to who, if any, is a real authority. What does the specialist know which is not readily available to the general practitioner if he just takes the necessary time to become acquainted with this readily available information?

Why is there the evident tendency to overlook the knowledge possessed by the general practitioner and rural doctor in favor of the information which the specialist possesses? So far as I am aware, only one major difference separates these two types of physicians. The specialist spends far more time and energy, and he obtains more experience from a limited number of disease entities. The general physician holds himself responsible for the care and treatment of almost all types of diseases of men, women and children.

What is the main difference between the general practitioner and the rural doctor? In my opinion, the rural physician specializes in practicing with the undesired handicap which is brought about by a decided paucity of materials and equipment. His patients live miles apart. The general practitioner enjoys usually all the equipment and personnel which is necessary to conduct a highly scientific practice. This status of events is usually not enjoyed by the rural doctor who conducts his practice usually without adequate help from colleagues and a highly trained technical and scientifically trained staff of assistants.

The general practitioner who resides in the more truly urban community has adequate hospital facilities, a more centralized radius of population in which to conduct his practice. The rural physi-

cian, to the contrary, must travel many miles when he makes his house calls. Although his communication systems have become modernized, he must still cope with those limits which time imposes.

The general practitioner now has his own organization which fights valiantly for his rights and aims. Although the rural physician can and often belongs to this great and important outstanding society, his own issues and problems are not brought up for consideration and their subsequent attainment, for his problems are not and cannot be similar to his urban general practitioner counterpart. Therefore, precious time elapses and nothing is done to ameliorate his struggles and trials which he must face daily in his rural practice. The rural doctor is truly the medical profession's stepchild! No rural physician, no matter how great his ability happens to be, can cope with and satisfactorily handle medical problems in the country especially when he does not possess those many important adjuncts which are needed so badly, particularly adequate laboratory and X-ray facilities. With concern about X-ray adjuncts, it takes a competently trained doctor to correctly read these X-ray plates. The rural physician does not usually have access to such service.

From what I have been able to observe in my various jaunts and discussions with rural colleagues, I think that rural practice, in the main, certainly is not dwindling. On the contrary, it appears that many young and highly trained medical confreres are establishing their practices in many rural areas. Furthermore, many of these doctors have built small but well-equipped clinics. Many of these doctors have been

able to merge their practices. This latter procedure makes it possible for them to secure adequate rest and relaxation. Furthermore, these doctors then are able to attend refresher courses in order to keep abreast with recent important advances in medicine.

However, it has become apparent, in a very striking manner, that these rural colleagues do not have facilities to meet and to discuss their mutual problems which are found solely in conjunction with rural practice. One has only to observe a rural physician who is treating a case of *placenta praevia* in some country home, which is devoid of such a modern convenience as running water and electricity, to discover that rural therapy differs sharply from the type of treatment which is employed in a well-staffed urban hospital. It is amazing to witness the adequate results which are attained by these rural doctors.

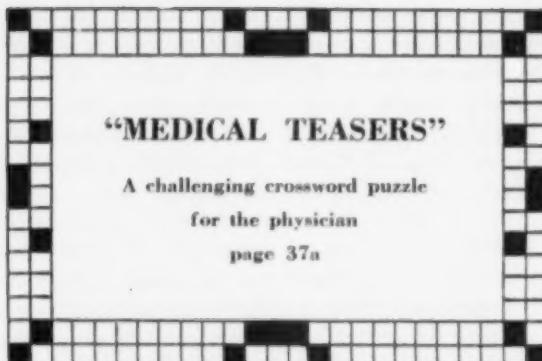
This striking lack of a necessary form of communication between rural doctors is in need of immediate rectification. Medical meetings do not devote time and the energies of their speakers to the solution of those many problems which are connected intimately and solely with rural practice. Nor is there one solitary textbook on this highly important and huge subject which might well discuss many rural matters at length. Nor does any known medical journal exist in which such similar subjects on rural practice are discussed. In fact the rural physicians are truly the stepchildren of the medical profession. One has only to review the countless numbers of medical journals which are available and which cover every single specialty and its sub-specialties. In spite of this plethora of medical journals with their countless authors, the country doc-

tors do not have a solitary medical journal which describes rural practice adequately along with the countless problems which are found in conjunction with rural practice.

It is my confirmed opinion there is a great demand for such a journal of rural practice for those many brave and tireless doctors who are solely responsible for the welfare of the countless numbers of people who reside in the rural areas throughout our great land. If such a publication were made available, it would do much to produce a much needed interchange of ideas for

the decided benefit of rural practice and the many physicians who are engaged in such highly important work. Let us trust that some responsible colleague or a group of similar rural physicians will launch such a journal in the near future. If such a plan were to gain fruition, modern medicine might lose its only stepchild. The immediate result would be the establishment of rural practice and its practitioners in a rôle as equal partners in the evolution, and the continued advance and improvement of modern medicine.

Bank of Two Rivers Building.



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# The Ambulatory Schizophrenic

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If you are a physician with an average busy practice the chances are almost overwhelming that you have seen an ambulatory schizophrenic in your office every week throughout the past year. Did you make the diagnosis? Don't feel badly about it. There are truly hundreds of these borderline psychotics in every community. They are incorrectly diagnosed in most instances and a significant number are under treatment for some disease not even related to the true pathology.

A lot of these people are hyperactive in the early part of their disease and quite a few of them are subjected to thyroidectomy. Unwarranted abdominal operations are performed and the most bizarre treatments are carried out. Needless to say, all this only adds fuel to the fire and makes an ultimate decompensation more likely.

Certain basic concepts will help to collate one's thinking about this problem. Let's discuss a few.

First, we do not know how to define a normal mind. As a result we go by weight of numbers. Those of us who

think in one general pattern so greatly outnumber those who follow other thought patterns that we call them "abnormal" and try to force them to think our way. We burn their brains with electric currents or give them insulin shock (which, since it works by interfering with oxygenation of cerebral cells, may be exactly equivalent to choking a patient until he becomes "addled") and carry out other regimens in an effort to get them to think as we do.

In the same vein, let me point out that these "abnormal" thinkers seemingly are increasing greatly in number. We had better look to our laurels. In a few decades they may outnumber us.

Seriously, though, this not being able to define the normal provides a real handicap. When you cannot fix a starting point it becomes a little difficult to say how far away from it one has travelled. One can only make an estimate and this is based on a single question: How well in contact with the thing we call reality is the patient?

Contact with reality indicates more

than the patient just knowing who and where he is and being able to give you the day, month, and year. It means, does the patient see his problems in the real light of truth or does he take refuge in fancy to avoid facing up to things? Does he see things with the clear perspicuity of us normal mental giants or does he constantly belabor the issue with irrelevant thought?

All this brings up the second problem—what is reality? Of course we must answer that real is whatever you and I think is real. And, to be truthful, I'm not so very sure it matters what you think. So you can predict where we will end up on that.

I have heard it said that the only true realist is the paranoid who believes that everybody is against him. A pretty good case can be made for that statement even in spite of the obvious tongue in cheek cynicism with which it was made.

On the basis of the above paragraphs we can postulate a remarkable definition: A schizophrenic is a member of a group that is regarded as insane because it is outnumbered by a larger group who are in contact with something the psychotic group is not in contact with, except we do not know what it is with which either group is in or out of contact.

Simple, isn't it?

To be serious for a change; I wrote the above to show you how utterly stupid the problem can and does seem to be when seen in a certain light. In practical usage the diagnosis is not difficult although enough time must be allowed for a searching history. Let's see if we can make some sense out of it.

A relatively great number of human beings might be classed as dreamy people. You have heard the old saying

that today belongs to the doer but tomorrow belongs to the thinker. Truer words were never spoken. It is from these people who dream of tomorrow that schizoid patients come. Even though most of them remain entirely normal they just don't think like the person that lives for today.

Going back into the history of such a person—for the sake of illustration, a normal person—you will find that, from childhood, he has been thought to be bashful and somewhat of a recluse. This is not to say that such a person avoids human contacts. He may join in briefly and be the life of the party. He may relish an evening with friends and very often has been greatly admired by his colleagues.

Over a period of time the trend toward isolation is apparent. Books are treasured storehouses, not instruments of torture. Reflection is pleasurable, not painful.

Such a person is capable of dreaming great dreams and often of making them come true. The average person just doesn't have the ability to build castles in the future like the schizoid personality has.

One of the troubles is that this schizoid person knows that he is different. He is keenly aware that he is isolated even from his friends by a bridge they find it difficult to cross. He resents this without understanding it. When this stage is reached the time is ripe for a retreat into a psychosis. The patient is bitterly alone and seeking some refuge. He does not find it in people.

Almost without exception he retreats further into his dreams. Even this is not necessarily bad for some of the great ideas of the world have sprung from

such people. It does create a problem for the patient.

That is really the whole picture of the schizoid personality. They are dreamy but sensitive to the fact that this very dreaminess sets them apart from other people. They do not stand up sufficiently well against the repeated buffetings of life for they tend to say "to hell with it" and retreat further into themselves.

What about the question of intelligence in the schizoid? Beyond any question schizoids usually come from the more intelligent strata of their particular group.

There are exceptions as is always the case in medicine. When one sees an ignorant schiz the chances are still that he comes from the upper level of his particular group. Just imagine what the others must be like.

Suppose a schizoid personality is fairly well adjusted to his own particular problems and is getting along. What makes him decompensate?

The most frequent thing is sex. There are two points about this that you should remember. A dream world is very pure or very vile. There is no room in it for compromise. I would say on the average it is very pure. A dreamy person builds up a rosy picture of the divine opposite sex. He seeks more from his mate than the average person seeks because he depends upon her to share his dream world.

A realist understands that there are few pure people and is inclined to accept that fact. His mate can either go along or go to the devil.

Actually the schizoid may find that he considers the whole problem of sex just a little bit unclean. He is immediately caught between the desire to avoid this improper thing and his own strong sex

desires.

All people have some unacceptable sex wishes. Imagine how intolerable these would be to a schizoid personality.

Other tensions normally a part of life may operate to decompensate such a person. Business problems, relatives, illness and operation; just any stress or strain may be the trigger mechanism. As a guess, I would say that sex operates in about 80 percent of cases, the other mechanisms in the remaining 20 percent.

Acute decompensations are not office problems. The patient is obviously a candidate for immediate hospitalization and there is seldom any doubt about the presence of mental disease. However, only about 20 to 30 percent of cases show an acute decompensation. A great many go through the process gradually. True, they finally arrive at the acute stage but it may take several years for them to do so.

Such people maintain a partial contact. They know that something is the matter and are often literally terrified by their rapid switches from the world of reality to the unreal and sometimes torturesome corner of dreams they have reserved for themselves. Obviously they have no realization of exactly what is going on or they would make more definite efforts towards control.

Often there is much somatization of anxiety at this stage. The patient will complain of the most bizarre symptoms and yet, he seems not truly concerned. He feels like "something is eating his kidneys out" but he mentions this with a vapid smile and cheerfully waits for the doctor to pronounce his doom. He gives the impression that you could tell him that he is going to drop dead in 15 minutes and he would reply, "My, my."

In spite of this he is nervous, jumpy, irritable, and sleepless. Just one look at him serves to make you say, "Here is a tortured human being." His family will usually point out how nervous and withdrawn he has become. At this stage some careful questioning will usually make the diagnosis.

The problem, of course, is to decide whether a psychoneurosis or an ambulatory psychosis is present. The decision is one of degree and, therefore, very much subject to the judgment of the individual physician.

Look particularly for silly thoughts or expressions not connected with the subject at hand. As an example, suppose you are asking serious questions about the illness and the patient interludes a silly remark about the view from the office window. It is perfectly possible for a normal person to do this but it is unlikely that he will do so more than once.

Be on guard for minor inappropriate mood changes. A patient may give a silly little laugh when nothing is funny or sink into a deep reverie in the very midst of what should be an important conversation. During the first of the interview keep your own counsel and ask very few pointed questions. The patient will give himself away if you will let him talk.

*Gently* seek out ideas of reference. Do people talk about the patient? Does she feel that gossips have injured her reputation? In the psychotic patient you may get either of two responses. The first is a true outburst about what terrible things people say behind the patient's back. The second is a very shrewd and knowing smile that says as clearly as can be "I'll take care of myself."

In over half of such cases there will

be some paranoid ideas. One can lead easily from a discussion of ideas of reference to these paranoid trends. Again, do not be too pointed in your questions. Let the patient talk. With the gentlest of urging he will mention any thought patterns he may have in this area.

Don't expect them to be rigidly systematized like the delusions in true paranoia. Most early schizos who have delusions just feel that the whole world is against them. They single out a few people who are particular enemies and will usually talk about them freely. But they do not have the exact, razor-sharp, unshakable pattern about the "enemy" individuals that true paranoid show.

By this stage of the interview you will probably have the patient talking freely and anxious to tell you anything you want to know. Ease the conversation toward those two critical points, religion and sex. If you meet resistance it is usually wise to postpone continuance of the discussion for a day or two.

If the patient is willing to go ahead you may prepare yourself for a real bit of diagnostic insight. Sex is obviously a real problem to the patient. He is probably no more concerned about it than you and I but his concern is expressed in totally different ways. A young woman may, for example, look upon sex as the ultimate sin and upon menstruation as evidence of uncleanness.

There isn't enough space in all medical journals put together to list and describe the varying approaches to the subject. Even so, you can recognize the schizophrenic thinking because it just doesn't take into account the usual realistic and quasi-logical view of the subject.

One silly warning is in order. The

women we normal people like to idolize as "as pure as the driven snow" are usually just plain vilely sexy and unscrupulous underneath their veneer. And the manly executive who "wouldn't think of a woman other than his wife" spends many a lewd and often productive glance on his attractive secretary.

Sex just isn't what the do-gooders like to tell us it is. When you have become a cynic through many years of medical experience don't get to wondering if you are a schiz because of your attitude toward sex. As the years go by this very cynicism will make you devout once again and the disgust with people and their sex problems will vanish.

As you continue your discussion with the patient, bring up the subject of religion. Many early schizophrenics get greatly interested in the subject and their abnormal thinking is often illustrated in their religious concepts. The devotee of the unusual sect or the person who holds firmly to untenable and illogical views\* may very well be exhibiting for you his illogical thinking.

There is a problem which will seldom come up but which is of the utmost importance when it does. A very fine psychiatrist once told me that the greatest danger faced by the very highly intelligent person is that he may be taken for a schizophrenic even though, in actuality, he is perfectly normal.

Such people have learned by bitter experience to keep their mouths shut. In the presence of a sympathetic physi-

cian whom they consider a person above normal they may open up and say what they think. Naturally, their approach to any subject may be somewhat different and their superior intelligence may allow them to see further into the complexities of it.

With such a person we must be very cautious. If followed carefully their thinking will be seen to be logical and orderly, not disjointed and haphazard as is true with the schizophrenic. I have interviewed such people and have had to have them repeat their thoughts several times while I strained my intellectual capacity to the limit in order to follow them.

Surprisingly, the early schizophrenic quite frequently has hallucinations. These are not as extensive nor are they as completely believable to the patient as they usually are in the person who has far advanced disease. As an example, one young lady said, "The other day I could have sworn that I heard a voice from Heaven accusing me of being unfaithful to my husband."

When questioned further, she said, "You know, I am afraid that I will hear it again. I guess it was just my imagination but it certainly sounded real."

As another example a 30-year-old man said, "I'm afraid my wife is trying to poison me. A voice told me so . . . (long pause) . . . I'm not even sure I really heard that voice and down deep in my heart, Doctor, I know that the whole thing is untrue. But sometimes I get so certain of that warning voice that I just can't eat at home."

During the continuation of the interview seek out carefully any "semi-hallucinatory" experiences. In almost 60 percent of ambulatory schizophrenic cases you will find them. Remember, the

\* Many years ago there was a sect that became famous for the completely illogical views espoused by the members. They were called "Christians". Such things make it difficult to write dogmatically about a subject like this. It doesn't seem likely that you and I will see a person that harbors the seed of a new religion—but it could happen.

patient will often show some insight and may realize that such things should not happen but he will make it abundantly clear that they are real to him.

By this time you will be relatively certain that there is some gross mental abnormality present. In 90 percent of such cases you will be willing to make a diagnosis of compensated schizophrenia. Even so, the question will come up, is there any mechanical aid to diagnosis?

There are two that can be of great help. One, the Minnesota Multiphasic Personality Inventory, is a simple test which, to a degree, interprets itself. The test is not difficult to give, is not expensive to buy, and offers reasonably reliable results. I would recommend it as an office diagnostic tool to all physicians who see a number of psychoneurotic patients.

One warning about it: As is true of all our diagnostic devices, the test is not infallible. It should never be used to the exclusion of a thorough interview.

The other test is the Rorschach. To use it properly demands training but this is easy to get. Very few practitioners are far from an adequate university. Departments of psychology will have at least one man well grounded in Rorschach technique. It will be worth your time to learn something about this test. I have had such courses and find the test of great utility in office practice.

Now suppose you have made the diagnosis and are relatively certain that you are dealing with a partially compensated schizophrenic. What to do next?

There are some prognostic factors that enter in. By no means do all of these people ultimately decompensate. As a pure guess, I would say that at

least 60 percent of them lead annoying and incomplete lives but manage to do without treatment or hospitalization. Another 20 percent require outpatient care at a psychiatric center. The remaining 20 percent spend some time in a mental hospital and/or in jail.

Very few such people ever achieve a good adjustment. Of course you must remember that "adjustment" may signify that the person has been beaten down and made to be average until he just doesn't give a damn anymore. Little real human progress has ever been made by an "adjusted" man.\*

This leads to the statement, "Don't get out on a limb." There is no way to be certain what degree of compensation these people will achieve or how long they will maintain it. I know of no way to make a serious enemy more quickly than to call an ambulatory psychosis to the attention of the patient and the family and then have the patient remain compensated for many years.

In the younger patient—say below 25—the situation is somewhat different. If there is a great deal of insight you may be able to talk frankly to the patient and help him to achieve a more balanced life. The so-called cures resulting from this are probably not cures at all. They represent instances of good compensation as a result of friendly co-operation and understanding between doctor and patient.

Psychiatric care is much to be desired in these younger people but it takes time. Brief visits to an already

\* As I wrote this last sentence the thought struck: "How closely this approaches to saying a castrated man." Is a loss of masculinity a part of becoming average? Probably there is some relationship.

harassed and over-worked psychiatrist are worse than useless. You will get better results than he will. I feel that it is up to the practitioner to take time to arrange adequate care for these younger people.

They have a disease that is as fatal to their place in society as a cancer would be to their lives. Time is a critical matter for adequate psychotherapy is easily possible while some insight exists but nearly impossible after it is lost. The salvage of these people is in your hands.

Older compensated schizophrenics offer less possibility of cure. They are usually set in their ways and equally set in their pattern of compensation. It really takes a mighty blow to make them decompensate but, of course, life is never without its mighty blows.

Psychiatrists will argue with this statement but sometimes you can do maximum good by getting these people to assume a sheltered life and maintain it. Psychotherapy is a two-edged sword for them. Many can be helped if they will take adequate treatment. Most will not.

Should their compensation gradually fail, then treatment becomes a must. The family should be told that the patient has some abnormal thought pat-

terns which seem to be getting worse and may require care. *Be sure* to say that some of these cases get better without treatment and that you cannot forecast whether or not this will happen.

There are two things that, in a sense, could be called complications. The first is a sudden decompensation which requires no comment.

The second is alcoholism. A number of these people use drinking as a way to compensate. When their abnormal thoughts get to be too much they simply drink until they can no longer think and then go to bed. Many of them have the dosage of alcohol calculated with great exactitude.

I knew a man who got drunk every evening for 15 years to avoid his schizoid thoughts. He did no great damage and, since he ate and slept well, stayed in fairly good health. Others do not do so well.

The point is this: be a little wary of taking alcohol away from a man who is using it as a means of compensation for schizoid tendencies. Find out first why he drinks. If there is schizophrenia it must be treated along with the process of stopping the drinking. Otherwise more harm than good may be done.

Box 783

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# Prostato-Vesicular Backache

## Diagnosis and Treatment

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Non-specific prostato-vesiculitis was recognized as a clinical entity even in the Nineteenth Century, but the first classical study of its role in the pathogenesis of orthopedic conditions was published in 1913 by Hugh H. Young.<sup>1</sup> This master of urology announced:

"I have seen many cases of lumbago, sciatica, vague pains in the back, hip, thighs, perineum, groin and often as far as the soles of the feet, caused by chronic inflammation of the prostate and seminal vesicles which, by involving nerve terminals, caused stimuli to be sent to the spinal cord and there transmitted to other visceral and superficial regions, according to the dicta laid down by Head in his explanation of the etiology of referred pain."

He advanced two new concepts which have since been generally accepted: (1) that chronic disease processes in the prostate and seminal vesicles are often unsuspected because they give rise to very few local symptoms; and (2) that the clinical manifestations they

produce in distant regions are reflex and not necessarily infectious in character. He therefore urged examination of the prostate and seminal vesicles "in any painful condition between the diaphragm and the toes."

Young's communication gave the impetus to many investigations in this field, and fifty of the leading ones are cited chronologically 2-51 in the bibliography of this paper.\* They agree that disease of the prostate gland is a common cause of low-back pain, and many of them emphasize that the seminal vesicles are also involved in such cases, either primarily or secondarily. A thorough search of the literature did not disclose a single dissent from these findings.

There are, however, minor differences of opinion which, while they do not affect the basic conclusions, are discussed below to clarify the subject.

\* The reprint of this paper, request for which should be addressed to Doctor Leikind, includes excerpts of salient points made by these writers, supporting his view that in low-back pain the prostate and seminal vesicles are frequently involved.

1. As Singer (1950)<sup>52</sup> has observed, "Many physicians speak of 'prostatitis' when they mean, or should mean, 'prostato-vesiculitis'." Disregard of the vesicles may be the cause of failure in treatment. However, it happens that the lower ends of the vesicles are inadvertently reached with prostatic massage, and this starts drainage of the vesicle secretion as well. Backache may thus be palliated and this is credited merely to prostatic massage.

2. Some earlier writers thought that low-back pain is caused by metastatic infection transmitted hematogenously or through the lymphatics from the prostate and/or vesicles. I believe that in most cases there is no infection of structures of the back and that usually prostato-vesicular reflexes rather than infection of the prostate and seminal vesicles are the specific causes of low-back pain.

3. The technique for proper massage of the prostate and stripping of the vesicles can be acquired by any general practitioner with a finger of average length. My index finger measures 3½ inches from the metacarpal phalangeal joint to the tip of the distal phalanx, and this is almost always adequate with sufficient practice. As Eastman (1904)<sup>53</sup> said:

"A long forefinger offers some advantage in the manipulation of these organs, still if the operator possesses the requisite skill and if he patiently overcomes the resistance of the perineal muscles, the shortness of the index finger becomes a matter of less importance."

Cabot (1897)<sup>54</sup> is of the same opinion:

"A certain amount of skill is

necessary (for examining the seminal vesicles), but the average physician can acquire this skill, just as he can learn to make a vaginal examination or use instruments."

Peterson (1939)<sup>55</sup> offers the following encouragement:

"It may be true that the treatment of diseases of the seminal tract must if needs be reserved to those trained in these matters, but it is equally true that the diagnosis of developed vesicular disease or a fairly competent exclusion of it, is accessible to almost all practitioners."

When competent massage-stripping does not produce optimal results, infections of the bladder neck, verumontanum and posterior urethra may require urological treatment.

4. Stress is often laid on the presence of pus cells in the prostatic secretion. However, repeated examinations frequently fail to show pus although the prostate is infected, because of obstruction of the prostatic ducts preventing free drainage, or inadequate technique.

As O'Shaugnessy (1956)<sup>56</sup> has stated the presence of white blood cells in the prostatic secretion does not necessarily signify the presence of a prostatitis. Moreover, a congested but non-infected prostate may be the pathogenic factor. For these reasons I do not depend on prostatic smears, which are often inconclusive. A more reliable criterion is supplied by the specific "therapeutic test": If massage-stripping is followed by relief from low-back pain, both diagnosis and indicated treatment are settled. Since the congestion may become complicated by non-specific infection from the urethra or hematogenously

from distant foci, antibiotics or chemotherapeutic agents should be used concurrently.

#### **Non-Recognition of Prostato-Vesiculitis as a Pathogenic Factor**

Although it has never been denied that low-back pain is commonly caused by disease of the prostate and vesicles, many orthopedists make no reference to these organs or only casually mention them when writing on low-back pain. Thus a monograph on low-back pain says—"The prostate and bladder are notable examples of organs in which pathological changes produce back pain." One would expect that backache of urologic origin would form an important part of the book. But nothing is said about the need for expert rectal examinations to determine the presence of pathology in the prostate and vesicles.

What is stressed is the opinion that the dominant behavior in 80 percent of these cases shows that the anxiety state must be recognized as a major factor in low-back pain in industry. The possibility that both the anxiety and the pain may have a common cause—prostato-vesiculitis—is ignored, disregarding the admonition of Wear (1929):<sup>56</sup>

"Of the remote symptoms (in prostatitis and vesiculitis) we find the following as the most common: (1) lumbar pain, (2) pain down the back of the thighs, (3) irritability, (4) depression, (5) nervousness, (6) lassitude. With such an aggregation of symptoms, one can easily see why some of these patients come to be regarded as neurasthenic and go through life without adequate examination. The sexual and nervous combination has always been a vicious

cycle, and without treatment leads to serious consequences."<sup>7</sup>

Another orthopedist in presenting current concepts regarding causes of chronic low-back pain offers a formidable list of pathological developments in the various structures of the body beginning at the skin and ending in the spinal cord. However, he does not include the prostate or vesicles, and does not consider the statistics regarding this causation of low-back pain presented by many authorities. (Wesson, 80%; Pugh, 90%; Guitierrez, 75%; Garvin, 50-60%; Mast, 90%; Simpson, 75%; Michel, 80%).

Attention is most often directed to "intervertebral discs." Bradford and Spurling<sup>57</sup> in their book "The Intervertebral Disc," speak of "the meager positive findings which have been emphasized as occurring in herniation of the nucleus pulposis" and note that "even a trained neurologist, unless familiar with the specific sensory, motor and reflex changes which are common in this clinical entity, might well miss the signs which would make the diagnosis certain."

Myelography for the detection of a so-called "pathologic disc," has definite limitations because of the frequency of false positives and false negatives. Moreover, it has often been authoritatively questioned whether a damaged disc can always be regarded as the cause of low-back pain. This view is held by the staff members of the Institute for Physical Medicine and Rehabilitation at Bellevue, who have stated that in many patients who had never complained of backache they found abnormal discs at autopsy. Because of the unavoidable incidence of pre- and post-operative complications of myelography, the opinion

has been held conservatively that it is an inadvisable procedure when surgery appears to be indicated. While this cautious approach to myelography is most commendable, it seems to me that the first point to settle is whether surgery is really essential. The "therapeutic test"—prostato-vesicular massage and stripping—by promptly relieving the pain usually removes the suspicion that a pathologic disc is actually responsible for the backache.

With regard to x-ray diagnosis, Splithoff (1953),<sup>58</sup> in order to determine the relationship of roentgenologic findings to chronic lumbar backache, x-rayed 100 patients with and 100 patients without this complaint. He found that congenital anomalies and degenerative arthritis were present in approximately the same percentage in each group. X-ray also proved uninformative as to the significance of narrowing of the fifth lumbar disc. The width of the disc is approximately the same in each group; in fact, some patients without pain showed so much narrowing that it was recorded as zero.

There appear to be three reasons why the prostate and vesicles are so frequently disregarded in low-back pain. The first is pointed out by Gibson who expressed regret that both physician and patient have a repugnance to rectal examinations because it is a disagreeable procedure.

The second is stressed by Huhner (1946)<sup>59</sup> in his book, "Sexual Disorders." He said that the difficulty stems from the fact that the neurologist is not trained to diagnose sexual pathology, while the genito-urinary surgeon does not come into contact with cases having symptoms remote from the sexual apparatus. This limitation applies with

equal validity to the orthopedist, who does not as a rule do rectal examinations. With regard to the urologist, Cunningham (1921)<sup>60</sup> has well said that "in general, a comprehensive understanding of the diseased seminal vesicles and of the local and general manifestations depending on it is lacking even among those who profess to be especially interested in genito-urinary surgery."

Peterson,<sup>55</sup> writing "On the Digital Examination of the Seminal Vesicles, with Reference to the Significance of Findings," expresses regret over the failure to apply the recorded information in practice, and says that "the main reasons seem to be lack of simple instructions for digital examination of the vesicles and lack of proper coordination of clinical findings with the physiological and pathological changes in the glands."

When no other cause is ascertained, the condition is frequently diagnosed as a "psychosomatic backache." Thus Sargent<sup>61</sup> stated that a definite organic cause was evident in less than 4 percent of his cases in which there were concomitant neurotic symptoms and which he referred to the orthopedist. The remaining 96% he considered either simple hysterical conversion or functional backaches. He did not state why patients were not subjected to proper urological investigation, before being classified as neurotics.

Sullivan<sup>62</sup> "has not found it generally worthwhile to attempt to establish criteria for distinguishing between psychogenic and organic causes," is "far from cheerful about what the psychiatrist can do for them," and says: "I shudder when I think of the laminectomies and fusions done on obviously neurotic people without psychiatric consultation."

While I am in accord with Sullivan when he deplores futile laminectomies and fusions, I disagree with his conclusion that the patients must be "obviously neurotic." Like other psychiatrists, he overlooks the fact that a competent rectal examination would often show where the pathogenic factor lies.

The third reason for misdiagnoses of prostatic-vesicular backache is set forth by Charles Miner Cooper (1923),<sup>63</sup> Clinical Professor of Medicine, Stanford University, in a letter to *The Journal of the A.M.A.* He wrote:

"For some years I have recognized that my finger was not long enough to enable me to elicit satisfactory findings concerning the condition of the seminal vesicles, and I have been in the habit of depending on well-recognized genito-urinary specialists for this information. It finally occurred to me that the physical limitations of these specialists might similarly be a bar to their efficiency in this respect, and so I sent a number of these patients to surgeons whom nature has endowed with unusually long fingers. The results have been highly gratifying: many patients who had previously been examined with negative results by well-trained urologists, thus obtained drainage of hitherto unrecognized infected material, with consequent relief from their fibrositis."

Wesson (1938),<sup>64</sup> writing on "Prostatic Backache," quoted this letter and observed that it "was not received with wild acclaim by the short-fingered gentry."

Pugh (1929)<sup>64</sup> confirmed this observation as follows:

"A short finger is certainly a great bar to both proper diagnosis and treatment of these cases. We have seen many patients who had been treated by competent urologists without having the infection in the vesicles detected."

It would seem that for the reasons given herein the general practitioner should himself assume the responsibility for determining the cause of the patient's complaint of low-back pain, rather than refer him to a specialist who—however otherwise capable—may not pursue the course of treatment which the condition demands.

**Typical Course of a Case of Low-Back Pain** When routine procedures and medication prove inadequate, the patient is usually referred to an orthopedist who resorts to conservative therapy which changes from time to time. For example, bed-rest is now falling into disrepute, and early ambulation is now said to be the aim, except in certain fractures, disc herniations with neurologic symptoms and severe injury with unbearable pain. Non-surgical cases are put through a series of specific exercises aimed at "strengthening the back muscles," which are supposed to be weakened—a theory which in my opinion is unsupported by clinical experience.

These procedures cannot have any favorable effect on the underlying prostatic-vesiculitis and any benefit is merely palliative. It is probably due to the avoidance of physical strain together with restriction of sexual intercourse, abstinence from alcoholic beverages which tend to irritate the genito-urinary tract, and to general supportive measures.

Meanwhile the prostatic-vesiculitis

progresses unchecked and may periodically flare up.

Urgent warnings issued by Wesson, McPherson and Boies have had no appreciable effect on established methods of dealing with compensation cases, and instead the patient, perhaps after an unsuccessful fusion or laminectomy, is adjudicated as a total or partial disability and receives the commensurate monetary award. To this the patient is entitled, since disability followed directly upon the accident. What should also be done, however, is to provide appropriate treatment directed at the prostatovaginitis. H. H. Young (1919)<sup>25</sup> declared that with proper examination and treatment—

"... many a poor individual who has continued to suffer while stigmatized a neurasthenic would find relief, many a case of supposed rheumatism, sciatica, lumbago and renal colic would be correctly diagnosed and cured."

#### **Prostato - Vesicular Reflexes**

**Causing Low-Back Pain** It is recognized that muscular spasm and pain in the lumbosacral, sacroiliac, iliolumbar region and along the course of the sciatic nerve are produced by reflexes caused by pressure of the congested prostate and vesicles upon adjacent nerve plexuses.

Direct proof that low-back pain can be reflex from the prostate and vesicles is readily secured clinically. To quote Barnes:<sup>25</sup>

"Many patients who have chronically congested prostates obtain immediate relief from symptoms when the prostate is massaged. The improvement is too rapid to be accounted for by a reduction in absorption of toxic

material from the prostate. It is therefore probable that overdistention of the gland causes a nervous reflex resulting in some of the symptoms of which the patient complains."

The precise manner in which these reflexes are produced and transmitted still requires elucidation, but in my opinion there are two responsible factors which can reasonably be assumed to be operative: (1) Distention of the prostate and vesicles by congestion and swelling primarily due to sexual abuse, indulgence in alcohol, or bacterial invasion. (2) Engorgement of prostatovesicular blood vessels through interference with venous circulation due to concomitant reflex spasm in the colon. The latter sequence of events is explained by the vascular anatomy of the rectum, prostate and seminal vesicles as described in "Cunningham's Anatomy":

"The arteries supplying the vesiculi seminalis are derived from the middle and inferior vesical and middle hemorrhoidal. The veins and lymphatics accompany the arteries. . . . The arteries supplying the prostate are derived from the internal pudendal, inferior vesical and middle hemorrhoidal. The veins form a plexus around the side and ducts of the gland."

It is apparent that the location of the proximal portion of the middle hemorrhoidal vein and the accompanying arteries renders them prone to compression when the distal parts of the colon and the rectum become spastically contracted as a result of a prostatovesicular reflex, and that this compression impedes the return of venous blood from the prostate and vesicles. As the blood vessels around the sides and base

of these organs become engorged and their distention increases, and as the pressure on the local nerve plexuses is sufficiently intensified it may become a "trigger mechanism" capable of transmitting reflexes to the lumbosacral regions producing backache. That low-back pain may be associated with a spastic colon is narrated in the literature. Thus Landry (1955)<sup>66</sup> said:

"The second group of visceral lesions which can cause low-back pain include the following: 1. Gastrointestinal conditions such as an overloaded colon causing irritation to the lumbar nerves; a spastic colon."

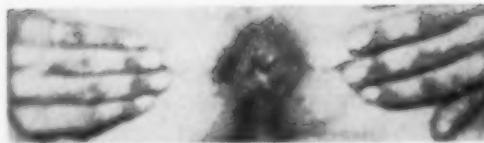
Wilhelmi (1931)<sup>67</sup> found that 42 of 220 patients with chronic prostatitis had gastro-intestinal upsets and pronounced constipation, and the latter was relieved after treatment of the prostate.

I have noted that a crisis of pain may be preceded either by constipation or by diarrhea, and this is an additional indication of the important role which colonic spasms play in the pathogenesis of low-back pain.

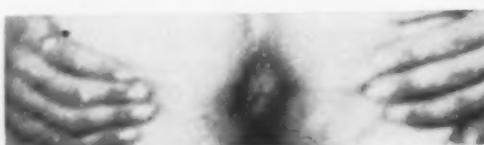
Clinical verification of this chain of causation exists in cases of low-back pain with protruding hemorrhoids: Immediately after massage-stripping, a contracted anal sphincter relaxes and hemorrhoidal distention subsides simultaneously, so that the residual hemorrhoid can easily be replaced into the rectum. The patient usually announces that, in addition to relief from the low-back pain, he feels relaxation of the intestinal spasm especially in the lower quadrant corresponding to the area of the backache.

Schepers<sup>41</sup> has noted:

"Hemorrhoids is quite a common complaint and many an at-



Protruding hemorrhoids before massage-stripping.



Immediately after massage-stripping.



24 hours after massage-stripping.

tack of 'piles' may prove to be heralding an acute exacerbation of the prostatitis, the gland being then found to be large and boggy."

It has been frequently observed that the patient's back is especially painful on arising in the morning, and that there is gradual diminution of the backache during the day. A logical explanation of this fact is that during the night there is an accumulation of feces and gas in the colon, which exerts mechanical pressure against the veins in the lower spastic bowel, thus further blocking venous return through the middle hemorrhoidal vein. This necessarily adds to the congestion in the prostate and vesicles and consequently increases the pressure of these organs on the peri-prostatic and perivesicular nerve plexuses which in turn send aberrant reflexes

to the lower back. The morning defecation to some extent relieves this pressure on the blood vessels in the bowel, so that the return flow from the prostate and vesicles is facilitated and the nerve plexuses are subjected to correspondingly lessened pressure with a consequent palliation of referred pain.

A contributory reason is perhaps that the overloaded rectum displaces itself deeply against the prostatic-vesicular structures, aggravating externally the pressure on the local nerve centers. Since this additional source of reflex causation is eliminated by the morning evacuation, this may explain in part the gradual reduction in the low-back pain during the day.

However, when in the course of time the pathologic processes have been aggravated, the backache may become constant. In addition there may be radiation down the sciatic nerves, especially in patients treated as outlined in the section "The Typical Course of a Case of Low-Back Pain" of this paper.

In such cases the picture may closely simulate "slipped disc" which explains the frequency of hospital discharge diagnoses proved erroneous by subsequent recovery of the patients under appropriate treatment of the prostate and vesicles.

To summarize: Prostatic-vesiculitis is frequently the cause of referred low-back pain. The sufferer may be unaware of the reason for its onset, or it may have been precipitated by physical strain causing increased pelvic pressure which aggravates the prostatic-vesicular congestion by producing increased arterial flow, the venous return being impeded because of a co-existing spastic bowel. The further increase in the distention of the glands aggravates the pressure on

periprostatic and perivesicular nerve plexuses, setting up a "trigger mechanism" which initiates reflexes causing pain in the lower back.

**Differential Diagnosis** Confusion between backache of prostatic-vesicular origin with backaches presumed to have other causes, such as displaced or ruptured disc, radiculitis, spinal cord tumor, lumbo-sacral arthritis, fibrosis or "weak back" has frequently been observed by me. This is evidenced by the following hospital records with discharge diagnoses subsequently disproved. The results from the treatment of the prostate and vesicles demonstrate the invalidness of prior neurological examinations and the examiner's unawareness of the reflex neurological manifestations of prostatic-vesicular disease.

1. Scoliosis, tilt to right in lumbar region. Lumbo-sacral joint narrowed. No relief of low-back pain from plaster jacket; spine fusion advised.

2. Diagnosis of neurologist: Herniated nucleus pulposis. Diagnosis of orthopedist: Lumbo-sacral arthritis with definite degenerative changes; disc doubtful; should have L5-S1 spinal fusion whether or not ruptured intervertebral disc is present.

3. Tentative diagnosis: spinal cord tumor; myelography negative; no final diagnosis.

4. Radiculitis.

5. Acute left sciatic neuritis; etiologic agents considered—ruptured disc, infection, diabetic neuropathy, cord tumor.

6. Slipped disc.

7. Degenerative disc disease at L4-L5 and L5-S1; herniated nucleus at either or both sides not excluded.

8. Slipped disc.

9. Slipped disc with thinning of disc

between L5-S1; surgery advised if traction is unsuccessful.

Urinary, rectal and gastro-intestinal difficulties when present cleared up concurrently with the improvement in the low-back pain.

My experience during the past 21 years is closely parallel to that of Allen<sup>21</sup> who stated as follows:

"The writer has quite a few case reports which could be cited, showing how after being treated for lumbago by one physician and put into a cast by the orthopedist for sacro-iliac strain, the patients finally unrelieved of their discomfort drifted into the hands of the writer who promptly cured them by relieving the prostates and seminal vesicles of their infection."

**Medical Management** Diagnosis and treatment of prostatic-vesicular backache is diagnosis and treatment of the underlying prostatic-vesiculitis. In history taking it is essential to determine whether local or referred manifestations which may be related to the low-back pain are present, and the patient must therefore be closely interrogated on the following points:

- **Urinary** Frequency, dysuria, nocturia, slowing or forking of stream, episodes of retention.

- **Sexual** Premature or painful ejaculation, blood in ejaculate, diminution in sexual gratification, loss in erectile power, impotence. Favorable or adverse effect of intercourse on backache, either prompt or delayed.

- **Rectal** Hemorrhoids, bleeding, fissure, pruritus ani, mucoid discharge, anal spasm, rectal pain following bowel movements.

- **Bowel** Regularity, frequency, size, shape, consistency, color and odor of

stools. If questioning elicits dysfunction in any of these respects, this indicates the strong probability that the low-back pain is prostatic-vesicular in origin.

#### **Technique of Vesicle Stripping**

This is facilitated by a low examining table, built for the purpose. It entails less effort for the patient, and this is particularly advantageous when he cannot easily assume the desirable knee-chest position and can only squat on his legs. Moreover, the patient is placed so low that the examining finger is not resisted by the weight of the patient. Gentleness must be exercised in introducing the lubricated finger into the rectum because of ano-rectal spasm and possible fissures, excoriated pruritus ani, hemorrhoids and, in elderly men, friable tissues. Laceration by the fingertip especially in the perivesicular area should be guarded against. The fingernail should be clipped to avoid scratching.

To effect deep penetration with a forcible thrust, the bladder and vesicles are pushed closer to the examiner by pressing with the left hand against the lower quadrant corresponding to the vesicle being stripped. This will be facilitated if the patient presents himself with a full bladder, which has the further advantage that subsequent urination washes out the posterior urethra with its potentially infected vesicular and prostatic contents.

The bent finger is passed beyond the prostate and moved laterally over each vesicle in a series of wide sweeps forming the shape of a question mark, the convexity of which faces laterally. This range of motion insures contact with a vesicle which may be displaced by adhesions in any direction and moreover will permit inclusion of any perivesicu-

lar induration. Each downward sweep is ended by stripping the lowermost portion of the vesicle where it joins the vas deferens. Firm pressure must be exercised, to indent the perivesicular tumefaction. The manipulation in the doughy areas may produce an effect comparable to the pitting which results when a finger is pressed into an edematous ankle. In this way the secretion is pushed through the ejaculatory ducts into the posterior urethra. Finally the prostate is massaged in the routine manner. Occasionally blood appears in the secretion indicating acute congestion of the seminal vesicles.

If the procedure is correctly carried out, the first or second stroke of the finger should immediately relax the anal sphincter. This enables the examiner to probe higher and strip more effectively.

The number of strokes depends upon the patient's reaction. He may initially be unable to tolerate more than three on each side. Some patients are hypersensitive even to slight pain. In others, even though no pain is felt, a marked arterial hypotension occurs with the initial stripping. It manifests itself with pallor, faintness, generalized warmth and sweating, or tingling in the extremities immediately after treatment and may last for several minutes. Patients should be forewarned of such a contingency.

The treatment schedule is usually as follows: Light stripping and massage for the first three days; continue with increasing pressure to tolerance on alternate days for two or three weeks; subsequently twice a week and eventually once weekly. The intervals are lengthened in accordance with improvement. The duration of a course of treatment

varies in each case.

As a rule, the examiner will detect a pathological development in the prostate and vesicles. When no prostatic enlargement is evident, the gland may be small because chronic infection has rendered it fibrotic. Seminal vesicles may be non-palpable because they are shrunken and deeply buried in the perivesicular exudate. In spite of deceptive negative findings, improvement following treatment proves that the low-back pain emanates from these organs.

When optimal results are not obtained, the bladder neck, posterior urethra and verumontanum may harbor a chronic infection and require urologic treatment.

Only when these procedures fail, and the patient remains unimproved, is the resort to orthopedic or neuro-surgical measures indicated.

**Auxiliary Therapy** When the diagnosis has been confirmed by the "therapeutic test," appropriate adjuncts are used routinely. I employ diathermy to the prostatic area as follows: The patient sits for 10-15 minutes in a straight chair under the seat of which the heating unit of the Raytheon machine is attached and adjusted for moderate heat. This tends to relax the perineal muscles, renders the patient more comfortable and, by stimulating circulation, can promote absorption of any inflammatory exudates.

Since the expressed secretion may contain infectious material, or possibly a small encapsulated prostatic abscess may open, I administer a triple sulfa compound (Neotrizine-Lilly) immediately before treatment and prescribe multiple doses for the three consecutive days. This is repeated with every treatment as prophylactic against metastatic

involvement (epididymitis, ocular infection) and for the prevention of an acute flare-up of a prostatitis-vesiculitis which, though infrequent, is not always avoidable. Should urinary symptoms be present and not sufficiently controlled by Neotrizine, Ilotycin-Sulfa is substituted. When a patient is sulfa-sensitive, Ilotycin alone or Furadantin may be tried.

The patient should avoid highly seasoned foods; weak coffee and tea are allowed in moderation; alcohol should be prohibited. Vitamins and minerals are given as food supplements. The patient also takes 50,000 units of Vitamin A daily for the favorable action on the lining in the genito-urinary organs. Injections of B12 (1,000 micrograms) are given with each treatment for tonic effect. Intra-muscular foreign protein (Omnadin-Winthrop) may be helpful in resolving inflammatory processes in the prostate and vesicles. Until pain is under control, analgesics may be pre-

scribed. Constipation is relieved with Colace (Mead Johnson), taken with a half-teaspoonful of milk of magnesia in a glass of water. Both analgesics and laxatives usually become unnecessary after three treatments; and as pain subsides, the bowel condition also improves.

While I regard braces, bedboards, massage and exercises, which purport to strengthen muscles, as useless, I allow their continuance by patients who had been using them previously until they agree that they no longer need such aids.

A hot epsom salt Sitz bath may give considerable relief, especially if the back pain is associated with urinary disturbances.

At the beginning of treatment, sexual excitement or intercourse must be avoided; with improvement, normal intercourse may be resumed and is beneficial by promoting drainage and avoiding secretory congestion.

### Conclusions

1. Congestion of the prostate gland and of the seminal vesicles, due to edema and swelling, may be locally asymptomatic but may initiate nervous reflexes which produce a spasticity of the lower bowel pathognomonic of prostatitis-vesiculitis.

2. Consequent fecal overloading of the bowel may effect compression of the hemorrhoidal vein and this may impede the return flow of blood with resultant engorgement of the prostatic and vesicular blood vessels.

3. This, in turn, adds to the distention of the organs and may intensify the pressure upon the peri-

prostato-vesicular nerve plexuses, setting up a "trigger mechanism" which may be responsible for pain referred to the lower back.

4. An industrial accident or some other traumatic injury may be the precipitating cause of low-back pain, but the backache should not distract attention from the basic cause—a possible insidious pathogenic factor in the form of an underlying prostatitis-vesiculitis.

5. The causal relationship may be demonstrated by the patient's immediate relief from backache upon competent massage of the prostate and stripping of the seminal vesicles. This, with concomi-

tant relaxation of rectal and bowel spasticity, constitutes a favorable prognostic sign.

6. The massage-stripping constitutes a simple "therapeutic test" which may promptly clear up a puzzling low-backache case, and avoid errors in diagnosis and treatment with serious consequences to the patient. Only if this "therapeutic test" produces no improvement and cystoscopic findings are negative, should an inquiry be made as

to a possible orthopedic or neurologic lesion.

7. The general practitioner who is familiar with the physio-pathological processes usually involved in low-back pain and who has perfected himself in the technique of prostatic-vesicular massage and stripping, will often have the gratifying experience of saving his patient prolonged suffering, economic distress and chronic invalidism.

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30 East 40th Street

### Maple Sugar Urine Disease

This new disease, characterized by the characteristic "Maple Sugar" odor of the urine of the infants afflicted with it is caused by an abnormality in the metabolism of leucine, isoleucine, and valine. It appears to be extremely rare. There are indications that the disease might be controlled. As further studies of this disease are urgently needed, will physicians who see an infant whose urine smells like maple sugar please get in touch with Dr. L. Emmett Holt, Jr., Department of Pediatrics, New York University-Bellevue Medical Center, 550 Fifth Avenue, New York 16, N. Y.

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# A Corticosteroid-Salicylate in General Practice

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The combination of a corticosteroid with salicylates was advocated in 1954 by Fischel and Frank.<sup>1</sup> They considered that such a compound might provide good maintenance therapy after a remission of symptoms had been obtained with full corticosteroid administration. We have reviewed the literature on the use of such combinations and will report on a cooperative survey of 400 patients treated with one of these combinations, Sigmagen.\*

Using one of the early corticosteroid-salicylates, Busse<sup>2</sup> obtained good results in 10 patients, of whom 5 had arthritis and 5 calcific bursitis; there were no side effects. Settel,<sup>3</sup> using the same corticosteroid-salicylate as in our series, studied 30 patients, most with degenerative arthritis. Of these, 27 obtained good to excellent results. Subjective improvement generally took place in about six days; objective improvement in about ten days. None of the 12 cardiac patients in his series exhibited salt retention. A general salutary effect was noted which Settel attributed to possible compensation of a subclinical corticosteroid deficiency.

Spies<sup>4</sup> treated 19 patients. The re-

sponse, though definitely favorable, was not as spectacular as with full corticosteroid dosage. However, eosinopenia was not observed.

Szucs and his colleagues<sup>5</sup> observed 400 patients with arthritis for a short time and commented that six months to one year was really necessary for proper evaluation of drug therapy in this condition. Their results were graded according to the clinical evidence. Their 400 cases were classified as having the following results: "very good" in 150 patients with osteoarthritis and in 25 with indeterminate types of arthritis; "good" in 25 patients with gouty arthritis, and "fairly good" in 200 patients with rheumatoid arthritis.

Tillis<sup>6</sup> used a corticosteroid-salicylate preparation in 80 patients, principally with various types of nonarticular rheumatism including tenosynovitis, fibromyositis, and fibrositis. The response was classified as excellent in 75%, fair in 5%, and poor in 20%.

Levy<sup>7</sup> confined his study to the use of one of these combinations in rheuma-

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\* Trademark of Schering Corporation, Bloomfield, New Jersey.

toid arthritis, and found that the benefits were probably no greater than the maximum results one could expect from aspirin alone.

Hollander<sup>8</sup> believes corticosteroid-salicylate therapy should not be employed in osteoarthritis and recommends confining the use of the steroids in this condition to very severe cases in which he would prefer to use the corticosteroids intra-articularly.

Most investigators<sup>2, 3, 4, 5, 6</sup> found few side effects with corticosteroid-salicylate combinations. Gastric disturbance, perhaps the most common side effect, was noted in 2 of 30 patients in one series,<sup>3</sup> in 25 of 400 in another series,<sup>5</sup> and in 4 of 80 in a third.<sup>6</sup> In another 19 patients<sup>4</sup> this side effect did not occur.

**Limitations of Corticosteroid-Salicylate Therapy** Various authors<sup>9, 10, 11</sup> have called attention to possible hazards and disadvantages which might attend the use of corticosteroids and salicylates in combination.

It has been suggested that better adjustment of dosage could be obtained if the steroid and the salicylate were to be administered separately. This objection would hold true, also, for all types of combination preparations. However, the popularity and variety of combined analgesic, antacid, and anti-asthmatic preparations indicate that their numerous advantages exceed the possible disadvantages of a fixed dosage ratio, at least in the conditions for which these medications are prescribed.

The possible abuse of the corticosteroid-salicylate combinations through their more widespread prescription is a factor which must also be considered. The risk of possible adrenal insufficiency when therapy is discontinued or in stress situations is present with these,

as with all other, corticosteroid preparations. However, the lower steroid dosage employed in these combinations should lessen this risk.

Corticosteroids can mask symptoms of serious illness. All physicians who prescribe corticosteroids, in whatever dosage, should observe their patients carefully for both side effects and evidence of intercurrent disease. Antibiotics should, of course, be given concomitantly when necessary.

The importance of administering the corticosteroid-salicylate combination with all of the precautions commonly observed during any type of corticosteroid therapy can not be overemphasized. Nevertheless, we have seen no reports in the literature of adrenal insufficiency following administration of low dosage combined corticosteroid-salicylate preparations. Similarly though side effects such as moonface, gastritis, etc., do occur with these combinations, the incidence of these is considerably less than with full corticosteroid dosage.

**Rationale** It has been said that the benefits which can be obtained from the small amount of steroid contained in the combination tablet are insufficient to warrant its use. Various corticosteroid-salicylate combinations contain varying amounts of both components. However, Sigmagen, used in this survey, contains 0.75 mg. prednisone and 325 mg. acetylsalicylic acid, along with 75 mg. aluminum hydroxide and 20 mg. ascorbic acid. A daily dose of 8 tablets contains 6 mg. prednisone. As little as 5 mg. of prednisone daily is often sufficient to maintain remission in patients with diseases such as atopic dermatitis<sup>12</sup> and 10 mg. of prednisone is often standard maintenance therapy in adrenogenital hyperplasia.<sup>13</sup>

The comparative freedom of prednisone from the electrolytic side effects of most corticosteroids is well known. Smaller doses of steroid and aspirin are necessary since they provide a combined antirheumatic and antiphlogistic effect while reducing the incidence of side effects.<sup>1,2,5</sup> It is generally agreed that it is necessary to restrict corticosteroid administration to the minimum effective dose for the shortest period of time.<sup>2, 3, 4, 6, 7</sup>

The ability of acetylsalicylic acid to reduce pain and induce remission in arthritis is well known.<sup>2, 7</sup> In some cases, but by no means all, salicylates when given in sufficiently large doses may have an effect comparable to that of the corticosteroids. It is believed that salicylates may act through the pituitary-adrenal axis, although the exact mechanism is not known.<sup>14, 15</sup>

It has been postulated that there is an increased need for ascorbic acid in stress situations.<sup>2, 3, 10</sup> Also, ascorbic acid seems to influence adrenal gland activity and the metabolism of adrenal cortical hormones.<sup>17</sup> Ershoff<sup>16</sup> believes that large doses of ascorbic acid improve the

utilization of cortical hormones and prolong their action through retardation of the breakdown and excretion process.

The presence of aluminum hydroxide tends to counteract the known gastric irritation effect of aspirin.<sup>2, 3</sup> Administration of the medication after meals usually reduces the incidence of gastric side effects.

**Clinical Evaluation** The present study was planned in order to determine the clinical effectiveness of this corticosteroid-salicylate combination (Sig-magen) as used in daily general practice for disabling arthritic, rheumatic, and traumatic conditions. The 49 investigators who treated a total of 400 patients adopted a standardized reporting technic with which clinical results could be graded as, complete relief, major improvement, slight improvement, or no relief. The time required to obtain relief was noted and the average duration of treatment indicated. The side effects were enumerated and the comparisons with previous therapy tabulated. In addition, any complicating illness was noted and the physicians commented on the efficacy of the medication.

## RESULTS OF SIGMAGEN THERAPY

CONDITION	NO. OF PATIENTS	COMPLETE RELIEF	MAJOR IMPROVEMENT	SLIGHT IMPROVEMENT	NO IMPROVEMENT	RESULTS NOT SPECIFIED
Rheumatoid Arthritis	110	19 (17.3%)	54 (49%)	22 (20%)	15 (13.6%)	0
Osteoarthritis .....	93	15 (16.1%)	40 (44%)	28 (30%)	8 (8.6%)	2 (2.1%)
Gouty Arthritis .....	6	2 (33.3%)	1 (16.6%)	2 (33.3%)	0	1 (16.6%)
Indeterminate Type						
Arthritis .....	28	6 (21.3%)	20 (71.4%)	0	1 (3.8%)	1 (3.8%)
Traumatic Arthritis ..	1	0	1 (100%)	0	0	0
Soft Tissue						
Rheumatism .....	69	35 (50%)	15 (21%)	7 (10%)	9 (13%)	3 (4.5%)
Bursitis .....	40	22 (55%)	14 (35%)	4 (10%)	0	0
Soft Tissue Trauma ..	41	14 (34.1%)	17 (41%)	10 (24.4%)	0	0
Miscellaneous—						
Sinusitis, etc. ....	12	4 (33.3%)	4 (33.3%)	1 (8%)	3 (25%)	0
<b>TOTAL .....</b>	<b>400</b>	<b>117 (29.2%)</b>	<b>166 (41.5%)</b>	<b>74 (18.5%)</b>	<b>36 (9%)</b>	<b>7 (1.7%)</b>

Attention was paid to the necessity for auxiliary supportive measures in the treatment of these conditions. The importance of carrying out a therapeutic regimen in addition to drug therapy was stressed.<sup>5, 6</sup> These measures included proper nutrition, adequate rest, physical therapy measures such as heat, massage, and graded active exercise, and protection of painful joints if necessary. Dosage ranged from 1 to 2 tablets Sigmagen four times daily; withdrawal was gradual.

From the table it will be seen that results were best in bursitis; relief was obtained either completely or as major improvement in 90% of cases. Next best results were obtained in soft tissue trauma where 75% of the patients had complete relief or major improvement. The soft tissue rheumatism cases were classified together and included myositis, fibrositis, tendinitis, etc. In this group, 71% of cases obtained relief either completely or as major improvement.

There were too few cases of gout to give a definite picture, but 50% of these patients obtained complete or considerable relief. In osteoarthritis 60% and in rheumatoid arthritis 66% had complete relief or major improvement. It should be noted that some of these conditions, such as soft tissue trauma and soft tissue rheumatism, are often self-limiting and the results must be interpreted with this in mind.

The overall average onset of relief was 5 days and the average duration of Sigmagen therapy was 26 days.

Among the 101 patients who had a complicating illness, the most remarkable were 31 with cardiovascular disease and/or hypertension. In only one of these—a patient with aortic stenosis and

hypertension—was edema reported, despite the fact that 11 of these patients had some evidence of congestive failure. There were 7 patients with anxiety neuroses and 10 who had a menopausal syndrome. In these patients the results were generally unsatisfactory. There were 10 patients with obesity and 6 with diabetes. One of the latter required readjustment of insulin dosage possibly related to the corticosteroid content of Sigmagen.

Four patients had peptic ulcers prior to therapy. None of these reported gastric disturbances as a side effect.

Other side effects reported included nausea and vomiting, which occurred in 11 patients (2.75%). Symptoms described as gastritis occurred in 10 patients (2.5%) and epigastric pain and/or indigestion in another 10 patients (2.5%). There was 1 case of proven gastric ulcer which may or may not have been due to therapy. Mild gastrointestinal distress was reported in 4 patients. A total of 36 patients (9%), therefore, had evidence of gastric disturbance.

Edema was noted in 7 patients. In some instances, this may have been an indication of moonface which was reported as occurring only once in this series. One of the 7 patients having edema as a complication was the patient with aortic stenosis and cardiac decompensation previously mentioned. One instance was reported of each of the following: urinary frequency, mild mental confusion, elevation of blood pressure, bloating as in premenstrual tension, and cramps in the feet and calves. Three patients complained of mild and transitory dizziness.

It seems safe to say that while aspirin would have helped some of the patients

treated in this series, the corticosteroids would have helped others not benefited by aspirin. The corticosteroid-salicylate combination apparently aids still a third class which does not respond well to either aspirin or steroid alone. In this series a comparison with previous

therapy was made in 250 patients; of these 184 obtained greater relief with Sigmagen. Many of these patients had been treated with corticosteroids alone, systemically or locally, and many others with salicylates, Butazolidin, and x-ray therapy.

### Summary and Conclusions

**A clinical survey is reported of 400 patients with various types of arthritis, interstitial rheumatism, and soft tissue trauma who were treated with Sigmagen.**

**This corticosteroid-salicylate combination is a practical and effective means of controlling symptoms, rapidly and safely, in a wide variety of arthritic, rheumatic, and traumatic conditions.**

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# Spasms of Smooth and Striated Musculature

**A Study of the Antispasmodic Action of 274 C (1-(1-Piperidyl)-3-Phenyl-3-Hepantol-Hydrochloride) in 54 Patients.**

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**Introduction** Most of the antispasmodic vago-depressive drugs have undesirable side-effects within the range of therapeutic doses. The most persistent of these side reactions are xerostomia or dry mouth, central nervous system excitation and certain visual disturbances. With the advent of Artane and its various chemical modifications these undesirable reactions have been, to some extent, eliminated. The drug 274C, an Artane-like compound with the chemical formula (1-(1-piperidyl)-3-phenyl-3-heptanol-hydrochloride)<sup>1</sup>, seems to have a remarkably low incidence of toxic re-

actions as shown in animal experiments and in studies on human beings.

It seemed, therefore, worthwhile to study the antispasmodic and toxic effects of this drug on a large number of patients with muscular spasms from a variety of causes.

**Procedure** The antispasmodic action of the drug 274C was studied in a group of 54 patients selected from the medical and gastrointestinal clinics of the Metropolitan Hospital Out-Patient Department. All subjects suffered from muscular hypertonicity in organs with smooth as well as striated musculature. Some of these spasms were associated with organic pathology in the abdomen, such as peptic ulcer, gallbladder disease and so on. In other cases, the underlying cause was of a circulatory nature as in abdominal bloating in arteriosclerotic patients or nocturnal cramps in the

1. Furnished by Lederle Laboratories, Inc. This work was done in conjunction with the New York Medical College Metropolitan Center Research Unit at Bird S. Coler Hospital, Welfare Island, New York 17, N. Y., Dr. Thomas H. McGavack, Director.

calf muscles. In a third group diagnosed as gastro-intestinal hypermotility no organic lesion could be demonstrated by x-ray examinations of the abdomen and other appropriate tests. These patients complained of epigastric pains, heartburn, belching, bloating, and so forth. The distribution of age, sex and diagnosis among the 54 patients is shown in Table I.

The patients were seen at bi-weekly intervals to be questioned as to results, including onset and duration of relief, and all side reactions. The medicine was administered in tablet form by mouth. Nearly all of the patients began by taking 3 mg. 3 times daily before meals.

In 7 patients the daily dose of 9 mg. was doubled to elicit possible toxic reactions or to improve the therapeutic effectiveness. In no instance was a change in diet or habits suggested.

The different degrees of improvement obtained by the use of 274C were recorded as "none", "slight", "marked" and "complete". The term "slight improvement" was used if not more than half of the symptoms of a patient were relieved, or if the patient indicated need for further therapeutic help. "Marked improvement" signified absence of almost all symptoms and satisfaction of the patient with the present therapy. The terms "complete" or "none" are self-explanatory. Placebo tablets were given from time to time to 9 patients in order to eliminate unreliable information.

## Results

### A. Therapeutic Action of 274 C

1. *Effect on Gastro-Intestinal Hypermotility:* This group consisted of 13 patients. The majority complained of epigastric pains, related to food intake,

heartburn, belching and bloating of the abdomen. Gastro-intestinal x-rays revealed no organic disease but gastric hypermotility was demonstrated in some cases. Administration of 274 C in daily doses of 9 mg resulted in complete or marked improvement in 7, and slight relief of symptoms in 3 cases. The remaining three patients were not improved. Doubling the daily dose from 9 to 18 mg did not result in further therapeutic benefit to any of these patients. The periods of observation in these subjects ranged from 1 to 26 weeks with an average of 4 weeks.

2. *Effect of 274 C on muscular spasms due to organic intra-abdominal pathology:* In this group were 9 patients with duodenal ulcer, 7 with chronic cholecystitis, 2 with a postcholecystectomy syndrome. The symptoms observed in these cases were quite similar to those present in the subjects mentioned in group 1. Of the 9 patients with peptic ulcer, 5 experienced marked, to complete improvement of their symptoms. The remaining 4 were slightly improved. All of the patients in this group took 3 mg of 274 C 3 times daily, and were observed for periods of time ranging from 1 to 7 weeks with an average of 3 weeks. All antacids or other medications were withheld during the period of administration of 274 C.

Among the 7 patients suffering from chronic cholecystitis 3 showed marked to complete improvement, with doses of 9 mg of 274 C daily. Slight improvement was reported by 3 patients taking this dose and one patient was not benefited at all by any dose of 274 C up to 18 mg. daily. The patients in this group were observed for from 2 to 6 weeks with an average of 3 weeks.

### 3. *Effect of 274 C on muscular spasms*

TABLE I

## The Antispasmodic Effects of the Drug 274 C\* Studied on 54 Patients

Diagnoses	NO. OF PTS.	AGE (YEARS)		SEX		Muscular Pain	Abdominal Cramps	SYMPTOMS FOR	
		Range	Aver.	M	F			Nausea	Vomites
Gastro-intestinal hypermotility .....	13	12-68	40	7	6		11	2	2
Peptic ulcer .....	9	23-64	41	6	3		9	1	2
Chronic cholecystitis .....	7	43-69	56	1	6		7	1	1
Post cholecystectomy syndrome .....	2	39-40				2		2	
Acute gastric indigestion .....	1	27				1		1	
Arteriosclerosis & distention of bowels	9	45-71	64	5	4		3		
Menopausal syndrome with distention of bowel .....	4	46-56	50			4			
Claudication intermittens .....	7	29-65	50	1	6		7		
Parkinsonism on arteriosclerotic basis .....	2	53-61				2			
	54	12-71	48	22	32		7	33	4
									5

\* (1-(1-Piperidyl)-3-Phenyl-3-Hexanol-Hydrochloride).

\*\*Degree of improvement

None —No improvement

Slight —Less than half of symptoms relieved

Marked —More than half of symptoms relieved

Complete—Absence of any symptoms

WHICH 274 C WAS GIVEN			Range No. (weeks)	TREATMENT		DEGREE OF IMPROVEMENTS**			
Eructations	of Bowels	Tremor		Avr.	Daily Dose Range (mg)	None	Slight	Marked	Complete
3	1		1-26	4	9-18	3	3	4	3
4	4		1-7	3	9		4	2	3
3	3		2-6	3	9-18	1	3	2	1
1	1		3-7	5	9-18		1		1
				1	9		1		
1	9		1-13	6	9-18		1	3	5
				4	2-16	5	9		
					1-15	6	3-18	2	
						2		1	4
				2	1-26	13	9-18	1	
12	22	2	1-26	5	3-18	8	14	14	18

**secondary to circulatory disorders:** This group consisted of 9 severely arteriosclerotic patients with bloating and painful distention of the bowels, 4 menopausal women with similar complaints and 7 patients with nocturnal cramps in the muscles of both legs. Each received 9 milligrams of 274 C daily. The period of observation ranged from 1 to 16 weeks with an average of 6 weeks.

Ten of the 13 patients in the first two groups with gaseous distention of the bowels were markedly to completely relieved, while 2 subjects were slightly improved and one remained unchanged.

The effect of 274C on nocturnal cramps in the calf muscles was studied in 7 patients. These received doses varying from 3 mg at bed time to 3 mg 3 times daily with the last dose given at bed time. Complete freedom from nocturnal cramping was obtained in 4 cases; marked improvement was noted in one patient; the distress of 2 patients was unchanged. Three of the subjects who were completely relieved of nocturnal cramps were observed during periods of time ranging from 7 to 15 weeks with an average of 11 weeks. The symptoms usually recurred after discontinuance of 274 C, but could be helped again by readministration of the drug.

#### 4. Effect of 274 C on Parkinsonism:

Included in our observations were two patients suffering from Parkinsonism on an arteriosclerotic basis. One of these was not relieved by the use of 274 C. The other showed marked improvement of his involuntary tremor and general psychologic outlook while taking, first 3 mg, and later 6 mg, 3 times daily. Administration of placebo tablets on two occasions resulted in complete deterioration of the condition after one to two weeks without 274 C. An increase of the dose of 274 C from 3 to 6 mg 3 times daily did not alter the type or intensity of the therapeutic effect obtained with the smaller dose.

**5. Onset and duration of the therapeutic effect of 274 C:** According to most patients, effects from 274 C could be noted within 15 to 30 minutes after ingestion. The beneficial effect lasted 3 to 4 hours. For the most part, patients were symptom-free when taking 3 mg, 3 times daily.

Placebo tablets given at varying intervals to 9 patients were, in no instance, effective; this indicates that in these subjects, 274 C was useful.

#### B. Side Effects of 274 C

There were remarkably few side reactions to 274 C when given in daily doses of 9 and 18 mg. Xerostomia or dry mouth, the most common side ef-

TABLE II—SIDE REACTIONS WITH 274 C\* IN 5 OF 54 PATIENTS

Diagnoses	Dose (mg)	Central N.S. Excitation	Anginal chest pains	Frequent bowel move.	Anorexia
Hypermotile stomach .....	3 mg tid	1		1	
Hypermotile stomach .....	3 mg tid		1		
Gen. arteriosclerosis.					
Distended bowels .....	3 mg tid	1			
Peptic ulcer .....	3 mg tid	1			
Hypermotile stomach .....	6 mg tid	1			1

\* (1-(1-Piperidyl)-3-Phenyl-3-Hepantol-Hydrochloride).

fect of a majority of the vago-depressive drugs, was not reported by any of the patients in this study. A total of 5 of the 54 patients experienced some undesirable effects from the use of 274 C.

Central nervous system excitation of a very mild nature was observed in 4 patients, one while using 18, and the other 9 mg. daily. The complaint of these patients consisted of restlessness of the body, mainly of the extremities, and general mental excitement. It was accompanied by shaking of the hands in one patient. Daily doses of 18 mg. were well tolerated by other patients who took this dose continuously for periods ranging from 4 to 8 weeks.

One arteriosclerotic patient with a mild angina of effort reported a slight sensation of pressure in the left chest after taking 3 mg. 3 times daily for a

few days. The study in this subject was interrupted by the examiner. One patient who became jittery on a dose of 6 mg. 3 times daily complained at the same time of severe constipation with very hard bowel movements. However, he was able to resume therapy with a dose of 3 mg. 3 times daily without this or any other unpleasant reaction. One patient complained of tremor of the hands and anorexia while taking 9 mg. of 274 C daily. These symptoms disappeared after 4 days, without any change in the amount of the drug used.

Among several vago-depressive drugs, many patients expressed a preference for 274 C because xerostomia rarely occurred in conjunction with its use. If one is to compare the two antispasmodic drugs, 267 C and 274 C, the latter is definitely superior as far as side effects are concerned.

### Summary

The antispasmodic and toxic effects of the drug 274 C (1-(1-Piperidyl)-3-Phenyl-3-Hepantol-Hydrochloride) were tested in a group of 54 patients with spasms of smooth or striated musculature. Patients suffering from gastro-intestinal hypermotility; organic intra-abdominal pathology, such as peptic ulcer, gallbladder disease; and patients with intermittent claudication were investigated. Marked to complete improvement of symptoms associated with the ingestion of 274 C was observed in 59.3% of the patients. Slight relief was obtained

by 25.9% of the subjects; the remainder of the patients (14.8%) did not respond to this drug. The optimal therapeutic dosage was 3 mg. 3 times daily, taken by mouth in tablet form.

Only 5 patients, or 10.8% of the whole group, experienced mild side reactions. Xerostomia or dry mouth was not mentioned by any of the patients; central nervous system excitation occurred in 4 subjects. 274 C is a reliable antispasmodic with very low toxicity.

47 EAST 61ST STREET

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# Inotropic Action of Digitalis Glycosides

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It will be my purpose in this review to bring together some of the abundant work that has been done in attempts to "explain away" digitalis. The literature is overwhelming, to say the least, many researchers are in conflict, but out of it all, though no definitive answer is gleaned, an approach to better understanding is gained. Speaking for myself, I can say I better understand digitalis now, not because I can tell you how it does work, but how it may work.

It will be necessary before considering digitalis itself to lay down a groundwork upon which the action of the drug rests.

The better part of current information on cardiac failure stems from work dealing in gross dynamics. It is my intention to avoid entering into discussion of forward and backward failure, it is not important for my purposes. We all will agree the manifestations of failure stem from the hypervolemia produced. The heart in failure has been studied for the most part as a pump, and there is not much question that most patients suffer from decreased cardiac output.<sup>1</sup> This fact informs us only that the pump is

not working as it should. Likewise, ventricular filling pressures and ventricular pressure curves are again gross dynamics which avoid the basic disturbance. The question remains as to why the pump does what it does, or rather doesn't do what it is supposed to do. Given a particular lesion, be it rheumatic, arteriosclerotic or dynamic in the form of hypertension, the pump begins to change to bring about a normal output. Or to be less teleologic, the physiologic impediment imposed by the lesion brings about changes by virtue of which cardiac output is maintained. The heart compensates and cardiac reserve is being infringed upon. It has been well known for some time now that failure is not apparent in the anatomical findings of the heart in failure. The valvular lesion of one heart that is decompensated is often of lesser degree than of the next which has continued to compensate. Likewise, the extent of myocardial fibrosis, necrobiosis and fatty degeneration bears no relation to the presence or absence of failure. Failure then rests as regards origin at a lower and more basic level than ana-

tomical change and gross physiologic handicap—it rests, as must be obvious, at a cellular level—the myocardial cell. The heart compensates for some time following a natural function inherent in the myocardium. This ability was described by Starling. At some point along the way, this ability is lost, and the drug we are considering enables the myocardium to regain it. Again, it is obvious that these changes take place on a cellular level and are of a biochemical nature. Failure and compensation will both be characterized later in the discussion from a biochemical approach as it is this approach which is paramount in the investigation of the mode of action of the glycosides. At this point, it is important that consideration be given to two subjects basic to an understanding of digitalis action; muscular contraction and myocardial metabolism.

**Muscular Contraction**<sup>3,4,5,6</sup> Cardiac muscle cells, as skeletal muscle cells, shorten against loads and tension is a result. Nature has devised thin and long particles to produce this system that can shorten. These particles are the protein myosin. Myosin has a great affinity for ions. Without this affinity for ions, myosin particles would fold up. It is the ionic field about myosin that keeps the particle straight and repels other particles of similar nature. The ionic field about myosin is composed of  $K^+$  ions. For contraction to take place instantaneously, these charges must vanish. Discharge of a protein is synonymous with precipitation, (precipitation is an expression of discharge). The precipitin is another protein, actin, which like myosin, in itself shows no sign of contractility. Actin has the property of existing in two forms, globular or G actin, and fibrous or F actin.

Globular actin is a small round molecule of 70,000 mol. wt. These globules aggregate and line up under appropriate conditions to form threads. Myosin and actin in salt solution form actomyosin which is a discharged protein complex. In the resting state, myosin and actin are kept apart by ionic forces. These forces are disrupted by the depolarization wave and actin and myosin can unite. For work to result, the system must give up energy commensurate with the laws of nature, and it is found that the disunited, uncontracted state is a high energy state, and the contracted a low energy state. But myosin and actin alone have a poor difference in their energy states. Here is where ATP makes the difference. ATP is a water soluble nucleotide consisting of small molecules. In the links between phosphate bands is a great deal of free energy. Myosin, by being so capable of binding  $K^+$  and also  $Mg^+$ , has a great affinity for ATP and the complex myosin—ATP is, therefore, a basic tool in muscle contraction. This ATP-myosin joins actin in contraction and the difference of energy states from the non-precipitated to the precipitated form is great. In one state, the particles involved are charged and straight, in the other, they are discharged and folded. When actin and myosin-ATP unite, they lose their charge and therewith dehydrate and shrink going to a shorter and energy poorer state. In thermodynamic terms, the energy potential realized in union is dissipated in shortening. In colloidal chemistry terms, the contraction is a precipitation of two proteins.

**Ionic Factors** Ionic balance is intimately concerned with this process. At rest, there is a high intracellular concentration of  $K^+$ . The cell membrane

is impermeable. Depolarization alters permeability and  $K^+$  exits from cell, having been released by the collapse of the charge system of actomyosin. The cell has lost  $K^+$  and the next contraction finds a new balance. It is a property of the actomyosin system that it works best at this new balance and less well if pause allows build up of  $K^+$ . This is logical in that the permanent rhythmicity of the heart will keep this new balance and therefore, the elements working along with this balance should be so designed that they function best at it. This property is demonstrated in the "staircase" phenomenon, whereby the beat after a pause is weaker than the one preceding it but the next beat is stronger, and likewise, each succeeding beat demonstrates an increased height of contraction. If a long pause allows  $K^+$  to diffuse into the cell the next beat is a weak one. A series of rapid beats will reestablish the favorable situation. These phenomena are demonstrated in isolated muscle. It has been shown that serum will allow a pause in heart beats and the next beat is almost as good as the one preceding it.

It is, therefore, concluded that serum has a substance which makes the cell membrane impermeable to  $K^+$ , allowing the favorable state to remain longer after a pause. It is known that DOCA has such an action as well as progesterone. The preceding discussion of the ionic balance inherent in contraction now reaches the point where some current thought implicates digitalis mode of action. The chemical structure of digitalis is related to that of the steroids. Therefore, it is felt by some investigators that by altering the  $K^+$  balance within the myocardial cell, digitalis

maintains the most favorable condition for contraction. This theory implies, too, that heart failure is characterized by an inability of the cell to keep potassium out.

**Muscular Relaxation** In our outlining muscular contraction, we have seen myosin-ATP and actin discharge, fold up and produce work. Muscular relaxation is the next step and is a most complicated one. Myosin, ATP, and actin, must get back to their original states, and since work was done by this system, energy must be put back in. Many facets of this process are known and piecing them together gives a gross outline of this stage. During contraction, ATP is split by myosin which has ATP-ase properties, and perhaps, by other dephosphorylating enzymes. ATP holds actin in fibrous form and, therefore, actin breaks up into globular form and dissociates from myosin. It is known that ATP is involved in the polymerization of actin. It is also a property of myosin that it helps catalyze the polymerization of actin. Putting these things together, we have contraction by producing splitting of ATP, bringing about dissociation of the elements. Myosin now hydrates and stretches out. Actin goes to its fibrous form. Energy was given back to the system by release of free energy from ATP. This free energy was the result of normal metabolic pathways we will trace in a moment.

**Myocardial Metabolism**<sup>7</sup> In as much as reference will be made to studies of myocardial metabolism in failure and after compensation with glycosides, a brief review of normal myocardial metabolism is in order. The myocardial cell utilizes fat, carbohydrates, and amino acids for catabolic and anabolic purposes. These functions

go on simultaneously with the aid of enzymes which in turn are dependent upon critical coenzymes, mostly of the B vitamin group. The oxidative enzyme concentration in the heart is the richest in the body as opposed to the situation in skeletal muscle where anaerobic systems predominate. Among substances utilized by the heart, are pyruvate, lactate, acetate, glucose, acetoacetate, beta hydroxybutyrate and fatty acids. Coronary sinus catheterization studies reveal that coronary venous blood contains 5-7 volumes per cent oxygen compared to 14-15 volumes per cent in systemic venous blood. Under aerobic conditions as elsewhere, glucose is metabolized to  $\text{CO}_2$  and  $\text{H}_2\text{O}$ . The initial step is the Embden-Myerhof scheme in which pyruvate is produced. If anaerobic conditions are present pyruvate is converted to lactate. Under aerobic conditions, pyruvate, amino acids and fatty acids yield two carbon atom fragments known as active acetate, which is then routed through the Krebs cycle via union with oxaloacetate, readily available from the Krebs cycle. Then by a series of enzymatic dehydrogenation  $\text{CO}_2$  is produced from the cycle and  $\text{H}^+$  is passed along the enzyme systems until a low energy combination with oxygen results in formation of  $\text{H}_2\text{O}$ . The energy released by the dehydrogenations is utilized to invest adenylic acid with high energy phosphate bonds. Likewise, creatine is enriched with high energy phosphate bonds. This energy which is transferred to the phosphate bonds is in essence the inherent energy in the C-H bond which goes with the  $\text{H}^+$  atom during dehydrogenations.

The two cycles of nature which operate continuously in the heart to produce work, have been outlined. They

may be referred to as energy production and energy utilization. Just as these very processes enable a heart to compensate, so to, they allow it to fail. Herein is a great question in clinical and laboratory medicine; where in these two cycles lies the defect in failure?

**Congestive Heart Failure** Among the first to characterize failure in near biochemical terms was Starling,<sup>8</sup> and his in-vitro study using the well-known Starling heart-lung preparation, is a classic in the field. Our minds always refer to the "Starling Curve" when we think of the heart dilating, compensating, and finally, "going over the brink", so to speak. It is this "going over the brink" that is so important to us here. What happens at this point on the curve of cardiac output when the slope takes a downward slant? Starling stated that there was a direct relationship between diastolic volume and, therefore, initial fiber length and oxygen consumption. As the load increased, so did the oxygen consumption, and likewise, the work up to a point. Beyond that, there was a decline in work and consumption increased linearly with the diastolic volume over a wide range of fiber length, including those at which useful work began to decline and failure to take place. At those high diastolic volumes, the heart was grossly inefficient. It was using a large amount of oxygen to do progressively less work. Since we know digitalis alters this curve, and, therefore, must influence the defect causing us to obtain this curve, let us ask for a moment, what the curve insinuates. As we go up the curve, the increased oxygen consumption is maintaining a state of compensation and suggests that increased energy production per unit of myocardium is neces-

sary. As we fall down the curve, this is even more accentuated and even less work is done, with what appears again to be increased energy production. It is important to grasp this point. Starling's work supports the fact that in failure of this type (acute stress) there is an increased oxygen consumption per unit of myocardium. There is no increase in mechanical efficiency as is so often credited to the Starling curve. More oxygen is used, and more work is done. We don't get any more for the money looking at it from a biochemical viewpoint. From the standpoint of gross dynamics, we do get more for the money—it's still the same heart, and work is increasing. So Starling's work implicates the oxidative or energy productive part of the heart's biochemical processes as the one which errs during failure. If the means of compensation in the type of failure we are speaking of is increased energy utilization per unit myocardium the logical extension of such thought is that when failure supervenes and compensation gives out, it is because something went amiss in energy production. Such is not the case.

In more recent years, such work has been done which equips us with a different set of standards to be applied to a heart in failure. Bing<sup>8, 10, 11</sup> used the method of coronary sinus catheterization to explore exactly the same phenomena Starling had in mind. This method enables one to determine myocardial oxygen and metabolite extraction. Coronary flow is estimated through a modification of the nitrous oxide method. With knowledge of flow and A-V extraction,  $O_2$  consumption per 100 gm. of muscle can be determined. The values will refer really to the left ven-

tricle as the sinus drains primarily that ventricle. Using this method of approach, determination of the unit myocardial oxygen consumption in man and Starling heart-lung preparations can be made. The results of these studies have repeatedly shown that in man with congestive heart failure due to arteriosclerotic heart disease, mitral insufficiency and stenosis, and aortic stenosis (the typical group of low output failure we concern ourselves with here) coronary blood flow per unit myocardium is normal, oxygen extraction is very slightly raised and, therefore, the total oxygen consumption is likewise slightly increased. These same facts were long before Bing's work suggested by *in vitro* work done by Peters and Visscher.<sup>12</sup> Using heart-lung preparations, they measured work, oxygen consumption and diastolic volume. However, they kept the diastolic volume constant by controlling venous return. They found that the heart suffers from what in essence is a decrease in mechanical efficiency. The energy liberated at a given diastolic volume remained the same (as measured by oxygen utilization), only the percentage of it which could be put to useful work decreased. Larber<sup>13</sup> investigated the spontaneously failing mammalian heart. The experiment was performed in two ways. At first, diastolic volume was maintained at a constant level by altering the load on the heart. If this was done, as failure progressed, the oxygen consumption remained the same, the diastolic volume was the same, of course, but the work decreased and, therefore, mechanical efficiency decreased. Then in order to check that the decrease in mechanical efficiency was not caused by the declining load, the volume was allowed to

change and still a decrease was obtained in mechanical efficiency, even though oxygen consumption did go up parallel with increasing diastolic volume. So these experiments too were characterized by decrements in mechanical efficiency in the presence of little or no alteration in total energy liberation. So we have a contrast as regards the heart in vitro and in vivo and in the elucidation of this difference, we gain insight into clinical failure which the glycoside emphasizes. In the non-failing heart in vitro, the unit oxygen consumption will alter with the diastolic volume and work of the heart. In the failing heart in vitro, the unit oxygen consumption rises with diastolic volume, but work decreases of course as failure progresses. Thus, the heart in vitro will work more as the load increases, but with the onset of failure oxygen consumption outstrips the work, and the efficiency declines. In man with chronic loads imposed upon the heart, the unit myocardial oxygen consumption does not increase although there is an increase in overall myocardial consumption due to increased total myocardial tissue. In Starling's preparation, acute failure was met by increased unit oxygen consumption as we mentioned. He regarded this as due to increased fiber length. In man with failure left ventricular fiber length is increased and, therefore, by Starling's Law the energy consumption per unit weight should be increased. Such is not the case and, therefore, Starling's Law must be held in doubt as regards its applicability to chronic failure in man.

These facts concerning failure in man which demonstrate diminished cardiac work with normal myocardial oxygen utilization suggest that the defect of failure resides in the contractile process

of the myocardium. The heart has perhaps partially lost its ability to convert oxidative energy into useful work. Somehow there is a break in the link between aerobic energy productions and work output. Further support of this conclusion comes from observations using extraction data that the substrate usage in failure appears normal despite low efficiency. Coronary sinus catheterization has shown that there is no significant statistical difference in the myocardial consumption of glucose, pyruvate, lactate, amino acids or ketone bodies per 100 grams left ventricle between the failing and non-failing heart.<sup>9,10,14,15</sup> Regarding the jeopardy in which Starling's Law has been placed it must be mentioned that the human heart in chronic failure can respond in a manner similar to what he showed for acute stress. Lombardo<sup>16</sup> found that when the load of the failing heart is suddenly increased, as by exercise, there is a rise in myocardial oxygen consumption. So it should be borne in mind that these studies indicate that the heart may respond in different ways to meet a stressful situation.

If the aforementioned studies point to a defect in congestive heart failure outside the processes involved in energy production and, therefore, implicate energy utilization, it is logical that work should have been done in an attempt to measure such things as creatinine and high energy phosphate, the elements which carry on from whence oxidative cycles leave off. Such studies have been performed.<sup>17,18</sup> Analyses have been made by workers of ventricular muscle from patients dying in congestive heart failure. Many workers have found a significant decrease in total creatinine, creatine, phosphorus and potassium.

An actual evaluation of ATP is extremely difficult, due to the liability of this compound, although much work is being done at present to estimate the nucleotide content of hearts. The work which has been done and mentioned just now as showing decreased levels of essential elements, is, for the most part, held in great doubt. Wollenberger, who is one of the foremost researchers on cardiac metabolism, criticizes all such work.<sup>19</sup> He demonstrated, from a large number of animal experiments, the poor correlation between total creatine and phosphocreatine. In his experiments with the heart-lung preparation, he showed that failing dog hearts have a

normal supply of ATP and phosphocreatine which again points to a defect in energy utilization.

We have spent a great deal of time talking about congestive heart failure, and the metabolic phenomena associated with it. We have yet to come to grips with the glycoside itself. But it has not been time ill spent, for it must be obvious that the most logical approach to identification of glycoside action is clarification of the defect we assume it must alter. At this point in the discussion, we may begin looking at work which has been done with digitalis itself. Later, we will again come back to consideration of congestive heart failure.

*(To Be Concluded Next Month)*

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### Cerebral Vascular Disease

A nation-wide program, which is expected to operate for six years, has been launched for the study of cerebral vascular disease, the Nation's third-ranking killer. Ten medical research centers are currently working on this cooperative investigation, and it is expected that 35 or 40 institutions will participate.

This new research program under the auspices of the National Institute of Neurological Diseases and Blindness of the Public Health Service's National Institute of Health was made possible by grants totaling \$172,000 to the various participating organizations. The cooperative program is supplemented by 29 current individual projects directed to specific aspects of cerebral vascular disease, and supported by Institute grants totaling \$250,000.

It is estimated that 1,800,000 living Americans have suffered "strokes" at one time or another, and the annual death rate is 175,000.

The present arrangement is for all data collected to be collated and evaluated at the University of Iowa in Iowa City.

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# Quo Vadis O Homo Sapiens!

**"Things are in the saddle and riding mankind," Emerson.**

**F. F. SCHWARTZ, M.D.\***  
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The nineteenth century with its closing years have given the medical world some of its greatest minds such as Virchow, Koch and Roentgen but on the other hand it has also produced the great triumvirate of cultists such as Palmer, Lust and Still.

It seems that nature works in an orderly fashion and the good is balanced with the bad—beauty with ugliness and the useful with the useless. Cults have dominated humanity for centuries reaching its zenith at times and then disappearing in the darkness. The power of psychology has been their most potent weapon to conquer the human mind and through this very medium cults have flourished and they are still with us. Today, with powerful propaganda forces of radio, television, magazines, movies and newspapers, the cults have an easy task by appealing through visual and hearing aids to the unsuspecting mind. Recently, one daily newspaper had fourteen different advertisements in one issue to allay the sufferings of humanity.<sup>1</sup> Well known and respected commentators sing the praise

of some preparation as the panacea for all ailments. Yes, all these media are casting away reasons in order to measure their own success in the volume of business done in one fiscal year.

The medical men have a giant task to perform to combat these vicious campaigns waged against the welfare of mankind and must enlist not only the help of the public but also the aid of the manufacturers, state and federal governments and above all their own rank to cooperate among themselves. The age of complacency is over and a unified action must be taken!

Equipments of various types are freely sold to unqualified persons as long as they can pay cash or attach their signatures on a note. Puttering around in various branches of medicine is a vogue today instead of a taboo.

**Naturopaths** This movement was organized by Benedict Lust, of New York, in 1896 with great antipathy

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against drugs under the concept that all diseases are due to the disorder of the ligaments and connective tissues. There are still a few schools in the United States with 24-36 months of instruction offering courses in sysmotherapy, glucokinesis, zone therapy, physiculotherapy, astrological diagnosis, practical sphincterology, phrenology, physiology, spectrochrome, iridiagnosis, chiropractice, diet, physiotherapy, oseotherapy, electrotherapy, mechanotherapy, heliotherapy, tension therapy, naprapath, neuropath, and physical culture. Entrance requirements consist of four years of high school or its equivalent, 50-461 dollars tuition. Most states require from 4,000 to 5,000 hours of instruction for the candidate to be invested with the degree of N.D., D.C., or N.D.. States define their various scope of practice for the naturopaths but most of them define it as the use and practice of psychological, mechanical and material health sciences to aid and purify, clean and normalize human tissues for the preservation or restoration of health according to the fundamental principles of anatomy, physiology and applied psychology as may be required, employing among other things, heat, light, water, electricity, psychology, diet, massage and other manipulative methods.<sup>3</sup> Excerpts from their catalogue present the following advice: "Thousands of naturopaths practice all over the country without license. In the states you cannot practice as a naturopath call yourselves physical culturists. The title of doctor is respected everywhere—this is your chance of acquiring it." The Nashville college claims that it is morally and professionally wrong for a student to graduate from any school with just one or maybe two methods of ad-

justing the human framework so they embarked upon teaching all forms of adjustive therapy known to the profession. "Name your technic and we believe that we will be able to produce it or something, maybe under different name that does the same work."<sup>4</sup> Eight states had the statutory licensing of naturopaths in 1947.

**Chiropractors** Revelation came to D. D. Palmer, of Davenport, Iowa, in 1885 when as a grocer and fish peddler he was visited by a group of magnetic healers in his store. He became surged with animal magnetism and so inspired that he cured a janitor of deafness who claimed that he became deaf within two minutes after his spine subluxed. Palmer adjusted the subluxation and within ten minutes the good janitor could hear perfectly. In 1895 a school was established and the first course of instruction was given for two weeks for the nominal sum of \$500.00 cash. B. J. Palmer the illustrious son of D. D. Palmer was the first manager of the school. He was an aggressive advertiser and a great inventor, claiming priority on a machine which located pinched nerves. This gadget netted him a sum of \$500,000.00.

The cult is traced back to antiquity by J. J. Nugent, at present the director of education of the national chiropractic association and he states, "the principles upon which the science of chiropractic is based where known to and practiced by Hippocrates, the father of medicine, Galen, and other noted physicians of ancient Greece and Rome. Descriptions of treating bodily ills are found in the ancient manuscripts of the Egyptians, Hindus and Chinese."<sup>5</sup>

Today chiropractic is the largest cult, numbering about 30,000 practitioners

with 25,000 in the United States and the rest scattered in other countries with the greatest majority in Europe. In fact, they are contemplating the erection of a centrally located chiropractic college in Europe to help mankind with its various ailments. What is a chiropractor and where do they derive their strength from? The word is the contraction of two Greek words, *cheir* and *praktikos*, meaning done by hand. They actually believe that they are endowed with healing power and therefore they are able to sell it to the public. Furthermore, they listen patiently to the woes of the chronically ill who have given up all hopes and motivation for living beyond the help of medical science. They promise cures unreservedly and testimonials decorate large columns in the newspaper from the living and dead. Their basic concept as set forth by Palmer is still their *modus operandi* in all the diseases and the curing of such diseases. In order to keep abreast with modern mechanization, the New York Chiropractic Institute defines it as the therapeutic science of the body mechanics—an engineering approach to the problems of diseases. Yet, studying their catalogues, their curriculum of studies includes 4,000-4,500 hours of instructions of anatomy, embryology and histology of 18.5%, physiology 6%, biochemistry 4.5%, pathology and bacteriology 13%, public health and sanitation 4%, obstetrics and gynecology 5% and the practice of chiropraxis 4% of the entire numbers of hours in the course.<sup>5</sup>

Philosophy and psychology consume 390 hours of the total four years of 4,720 hours of instruction at one of the colleges.<sup>6</sup> Instructions are also given in dermatology, ophthalmology, first-aid,

minor surgery, extensive laboratory procedures, physical therapy and legal medicine.

If their concept of etiology and treatment is predicated on one universal method then why burden the students with the orthodox medical procedures in establishing a diagnosis and treating the underlying pathological conditions? It must be self evident even to a lay person that acne will not be benefited by spinal adjustment any more than the adjustment of a spinal subluxation will deliver a child.

Requirement for admission is four years of high school or its equivalent yet a survey of 150 chiropractors picked at random who were granted licenses by the Indiana Legislature revealed that one finished the 7th grade, one the 5th grade of public school and 143 graduated. From high school 60 graduated, 12 had three years, 21 had two years, 20 had one year, 1 had one and one half year, and 36 had no high school education.<sup>7</sup>

The chiropractors are granted statutory licenses in 44 states and four states, Alabama, Mass., New York and Louisiana, have no chiropractic laws. In Canada they are licensed in six provinces and there is no chiropractic law in Nova Scotia.

In sixty years of their existence, the chiropractors claim 30 millions of patients and 2 millions of patients seeking chiropractic help yearly.

The chiropractors are strongly organized with supportive and pressure groups such as the Chiropractors Research Foundation, National Chiropractic Association. The Veterans of Foreign Wars, during their 53rd annual encampment, urged chiropractic privileges on the Veterans Hospital Staff. The

American Legion convention of 1952 defeated a resolution allowing chiropractors on the VA staff.

Dr. D. Anderson, PhD., writing in the "Present Day Doctor of Chiropractors," states, "The present writer has spent considerable time studying the facts, both in the literature and in the practice of chiropractors. These confirm the view that today's chiropractor regards his work in the fullest professional light, practices his form of healing art conscientiously and thoroughly. Chiropractic is fast becoming an indispensable element in helping people maintain good health. For chiropractic science and its application by means of a present day doctor's consultation and treatment, function with the whole man in mind."<sup>28</sup>

Even the 84th Congress took out time in this turbulent era of our civilization to insert in the Congressional Record, "The Mystery and Misery of the Backache," extension of remarks by the Honorable Victor Wickersham, of Oklahoma.<sup>29</sup> Mr. Wickersham states, "With regard to the treatment for this widespread ailment I think it is pertinent to point out that the second largest branch of healing arts—the profession of chiropractic—has specialized in the diagnosis and treatment of illnesses having their origin in the region of the back. The fact that this profession has grown so rapidly in recent years, in no small measure is due to the success this profession has had in relieving peoples' backaches and all the ills that appear to be dependent on bad back conditions. Over 500 insurance companies now accept chiropractors' certificate for claims. Sordoni Enterprise, of Pennsylvania, employs five full time chiropractors for its corps of workers."

It is indeed a sad state of affair that

individuals, who are trained and invested with the power and knowledge to regulate the laws of the land, become "experts" in the healing art and evaluate the quality of medical care the American people should receive.

**Osteopathy** A practicing physician, Dr. Andrew Taylor Still, who founded the osteopathic movement in 1874, maintained that "disease is the result of anatomical abnormalities following physiological discord; anatomical abnormalities consisted of lesions of the bones, joints and their supportive structures." These in turn induced disturbances of nerve and vessel function that produced pathological conditions in other tissues. He was against drugs, serums, electricity and even against hydrotherapy but he did advocate surgery.

Still's dogma carried on for a long while but osteopathy awakened from the dark ages and at present is leaning more and more toward the teachings of medical colleges even though a small percent of its curriculum is still devoted to the manipulative technics.

A few excerpts from one of their earlier textbooks will aid in understanding the old osteopath's background. Recommendation for the management of angina pectoris, "Treatment is to relieve pain by raising the left lower ribs in the region of the heart bringing pressure over the upper three spinal nerves at the same time thereby relaxing the tissues over the precordial region, with additional inhibition of the pneumogastric nerves. In case of emergency, ice bag or hot application over the heart may be useful."

"Treating varicose veins is accomplished by removing the obstruction. The intestines should be raised, the pro-

lapsed uterus should be replaced; abdominal wall strengthened by local treatment of the spine. Stimulate vasomotor innervations of the limb to aid in keeping the circulation active. In varicose ulcers parts to be kept clean applying healing dressings."

"In epilepsy a fair number of cases can be cured. If the patient is seen at the aura the attack may be prevented by pushing the patient's head strongly against a hand applying deep pressure in the sub-occipital fossa. This treatment seems to arouse reflex stimulation or to equalize blood flow to the brain by effect upon the superior cervical ganglion and medulla."<sup>10</sup>

There are six osteopathic schools at present requiring three years of pre-professional study in an acceptable college or university for admission. The curriculum covers four years of instructions from 5044-6526 hours. In 1952 there were 11,827 osteopathic physicians practicing in the United States and its possessions.

It is considered ethical in 23 states to accept patients referred by an osteopath and in 11 states it is unethical. In 8 states it is ethical to be in consultation with osteopaths and unethical in 24 states. Fourteen states' associations classify modern osteopathy as cultist healing. It is estimated that six percent of the total patients' care is being done by the osteopaths in the United States and in some states they can even perform surgery.<sup>11</sup> The question of osteopathy being a cult or not is still being debated in the House of Delegates of the American Medical Association.

**Gadeteers** Dr. Alvarez's remarks as quoted in a daily newspaper is well applicable both to the gadeteers and cultists. "Probably the surest way in

this country of making a fortune overnight is to devise some crazy diet, the crazier the better, and write it up as a guarantee to change the town wall-flower or a fat girl into a Marilyn Monroe."<sup>12</sup> Since time immemorial people have believed in charms, Amulets, incantations, magics, diets and gadgets. The father of America's gadget peddlers was Dr. Elisha Perkins, inventor of the Perkins Patent Medicine Tractor, which consisted of two metal rods to lure diseases from the body. Even J. B. Palmer, son of D. D. Palmer, made a fortune by inventing the neurocalometer to locate pinched nerves. The magic of colored lights was popularized by the Kabbalistic Theosophy movement as advocated by Dr. S. Pancoast in his book, Kabbala. "According to ancients, the colors of light were symbolic of life and death. White light is the color of quintessence of light, blue invites repose or is slumber, black is absolute rest, to sleep of death, yellow is activity, red is absolute motion, motion of life. The color whether it is red or blue would allow the rays to reach the patient. A blue garment would repel the red rays and a red garment would repel the blue rays. In applying treatments the matter of clothing is of the highest importance, black garments would throw down the color whether red or blue and would not allow the rays to reach the patient. Inner and outer clothes should be of the same color as applied or just white. Where the disorder is localized apply the rays directly."<sup>13</sup>

Even the harmless, abundant and cheap water shared the spotlight of the cults. John Smith, CM. of England, claimed that rickets could be prevented in children by bathing them in cold water day and night. Drinking water

would not only prevent the formation of kidney stones but also dissolve them.<sup>14</sup>

With the progress of electricity electronics a new source of income appeared on the horizon. The Ther-Reducer for facial beauty, the Duo-Therm for muscular-aches and pains, home diathermies, invigorating and reducing machines, parlor sweat baths and many others too numerous to mention have made inroads on the credulous public in

quest of Nirvana and Diana.

The Micro-Dynameter of Ellis gave the chiropractors a machine which would diagnose different diseases and would also aid them to evaluate the progress of the chiropractic treatments. The machine has a unit scale which indicates the type of disease such as insanity 141,000 units, gonorrhea, 91,000 units, cancer 9,000 units and tuberculosis 15,000 units as registered on the scale.<sup>15</sup>

### Summary

**How long will intelligent people subject themselves to quackery in this golden age of science is anyone's guess. Yet, we may ask, why does the process of law take so**

**long to bar and prohibit the manufacturing, shipping and selling of these nostrums? We can recall Hadacol, Crazy Water Crystals and their famous inventors.**

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# Hiatus Hernia

## A Neglected Clinical Entity

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"A woman of 59 years of age complains that for 6 years she has suffered from intense burning pain behind the lower part of the sternum, which rises up toward, or even into, the neck. The pain may spread into the jaw, the ear or the hard palate, or radiate through to the back between the shoulder blades, or down the arm. It comes on especially when she exerts herself stooping forward, as in washing the floor, bending over the wash tub, poking the fire, or fastening her shoes. It wakes her in the middle of the night, especially if she is sleeping on her back or her right side, and she seeks relief from what she describes as an agonizing pain by sitting upright and taking a few sips of water, milk, or alkaline mixture. She says that her throat usually feels dry and burning. When she swallows she may be conscious of the passage of food down the gullet, it may cause a feeling of soreness and may sometimes lodge toward the lower end of the sternum causing pain which is immediately relieved as the bolus passes into the stomach. If she bends forward after a meal, food or sour fluid rises into her throat and has to be swallowed again. Her husband says that for belch-

ing she takes the first prize. Four years ago she was thought to have cholecystitis, but removal of either a normal or abnormal gallbladder did not cure her. Roentgenography of her stomach and her duodenum shows no evidence of ulcer. She has tried all the advertised stomach medicines with only temporary relief and has finally been told that 'the nerves of her stomach have been upset by the change of life.'<sup>1</sup>

This woman suffered from a sliding hernia of the stomach through the esophageal hiatus of the diaphragm into the posterior mediastinum, with esophagitis from reflux of gastric contents into the esophagus due to incompetency of the gastroesophageal junction. The story vividly stresses that the symptoms of hiatus hernia may simulate many of the diseases of the upper abdomen and chest, and that many physicians are not sufficiently aware of its clinical importance. Despite marked advances in our knowledge of these common hernias in recent years, this history occurs far too often.

**Incidence** Reports on diaphragmatic hernias, of which hiatus hernias make up about 90%, vary between 1 to 12 per cent incidence. These studies

are of large series of routine x-ray examinations or patient surveys. Weintraub<sup>2</sup> believes that factors in the difference in reported incidences are 1) because of the work done by Johnstone and Jones, demonstrating that several examinations may be needed to establish the presence of a hernia; 2) Examination for hiatus hernia is not routinely done in most large hospitals; 3) A dilated phrenic ampulla is occasionally called hiatal hernia due to the difficulty in defining the collection of barium above the esophageal hiatus.

A unique series from the Mayo Clinic<sup>3</sup> (based on the unusually complete medical records of the 30,000 people in Rochester, Minn.) noted 153 cases of primary diagnosis of hiatus hernia within 13 years, for a prevalence rate of 5 per 1,000 and an incidence rate of between 0.5 and 0.8 per 1,000. From these calculations it might be predicted that well over 800,000 people in the United States have esophageal hiatus hernia.

The majority of cases are in women, but the literature varies greatly as to the exact incidence. Over 90% are in patients 40 years or older, but it is well known that they do occur in all ages.

**Physiology and Etiology** Basic to any knowledge of the pathogenesis of this entity is an understanding of the physiologic mechanism of the cardia. Unfortunately, this seemingly fundamental and simple aspect of body function is not surely known and leading world authorities still argue the merits of the various theories.

In recent years Allison,<sup>1</sup> who has studied the esophageal hiatus at many operations, proposed the most acceptable view of the action of the cardia.

"At the esophagogastric junction there is no thickening of the circular muscle fibres of the esophagus to form a sphincter, but the canal takes a bend forward and to the left, and this bend is lassoed and maintained by the right crus of the diaphragm which hitches it down to the lumbar spine." He compares this sling of the right crus to the action of the puborectalis muscle of the pelvic diaphragm around the anorectal junction. The muscle fibres of the crus are reinforced by other elements of the diaphragm to form a firm ridge in front of the esophagus. However, posteriorly, a weak spot is present where the fibres have parted, and increased intra-abdominal pressure will split the fibres more and increase the opening.

"When the right crus of the diaphragm contracts, its action on the cardia is twofold: first, it compresses the walls of the esophagus from side to side, and second, it pulls down and increases the angulation of the esophagus." During inspiration, when the suction pressure in the chest would tend to draw the gastric contents into the esophagus, the crus of the diaphragm contracts and obstructs this. Although the right crus acts as a sling it does not hug the esophagus tightly nor is it applied at any fixed point or level; this allows the intra-abdominal segment of the esophagus to slide up and down.

Allison believes that despite the absence of an internal sphincter, there is an intrinsic mechanism which contributes to continence. The oblique line of entry of the esophagus into the stomach is an important factor, and contraction of the circular muscle fibers of esophagus and oblique fibers of stomach play their part. If the intrinsic mechanism is ineffective the diaphragm

alone may not be enough to ensure complete continence.

Barrett,<sup>4</sup> although generally agreeing with Allison, believes that the right crus plays a minor role in preventing reflux, despite some pinchcock action on the cardia during inspiration. As proof he stresses that paralysis of the diaphragm does not result in regurgitation. He believes the acute angle between the esophagus and stomach to be essential, and that it is maintained by the action of muscle bundles in the stomach. Longitudinal bands of muscle beneath the gastric mucosa adjacent to the lesser curvature run upward on the posterior wall encircling the cardia, and then course downward on the anterior wall, thus forming a sling around the cardia. He also stresses "that in a normal subject a barrier against reflux exists in the form of a flap valve of mucous membrane, which is situated at the exact point of junction of the stomach with the esophagus. It presents little or no obstruction to the downward flow of esophageal contents, but is resolutely resistant to any reflux of gastric contents."

Therefore, while the acute angulation between esophagus and stomach, and the mucosal flap valve exist, as in paraesophageal hernia, the contraction of these intrinsic muscle fibers will prevent reflux. If the angulation and valve are absent, as in sliding hernia, these muscles will not prevent reflux.

It is not clear to Barrett why all people do not develop a sliding hernia. "The question is what allows the cardia to slide excessively in some people and not in others, and what prevents it from returning to its normal position in those who have a persistent simple hernia." He believes that potentially, anyone can

acquire a hiatus hernia because the hiatus is really a "hole" in the diaphragm. The margins of the hiatus are loosely applied to the esophagus, resulting in a sliding up and down. The phrenoesophageal ligaments, which are tenuous bands of connective tissue, play no part in preventing herniation. Rather he stresses that "the factor which is decisive in whether a person develops a sliding hiatus hernia or not, is the anatomy of the left gastric artery." "The left gastric artery and its mesentery hold the cardia in its usual position and if these structures are lax there is nothing to stop the cardia sliding into the mediastinum, particularly if the abdominal pressure is increased."<sup>5</sup>

Harrington<sup>6</sup> believes that the phrenoesophageal ligaments, membranous structures attached to the under surface of the diaphragm, and the lower end of the esophagus, assume the primary role in fixing the cardia. These membranes, with the circular muscle layer at the cardia, also play an important role in sphincteric action at the cardia by maintaining the normal angular anatomic relationship between the esophagus and stomach. "It is probable that many of the hiatal hernias of elderly people result from incompetence of the hiatus, due to atrophy of the protective elastic membrane and the loose attachment of the peritoneum at the cardia, particularly when the hiatus is abnormally large." Schatzl<sup>7</sup> thinks that diminished elasticity of the diaphragmatic dome and loss of fat tissue around the hiatus cause relaxation and separation of the muscular elements of the hiatus; he states that small hernias are a physiologic finding in the older age groups.

Very recently several Americans have

returned to the old theories of an intrinsic esophageal sphincter, as opposed to the English authors emphasizing the extrinsic factors. Lerche<sup>7</sup> in his thorough book, "The Esophagus and Pharynx in Action," has demonstrated the anatomical presence of an inferior esophageal sphincter. He also has described a "gastroesophageal segment of expulsion" consisting of the structures between the lower esophagus and stomach which are concerned with this mechanism. Poppel and Zaino<sup>8</sup> in an oil-contrast polygraph study of the esophagogastric junction in 500 unselected patients, verified Lerche's concepts and failed to show evidence for the pitch-cock action of the right crus of the diaphragm and only rarely angulation of the lower esophagus on contraction of the diaphragm. They clearly demonstrate on x-ray the various anatomical parts that Lerche describes including the inferior esophageal sphincter and stress that it is best seen in cases of "curling" or spasm of the esophagus.

The presence of a "contracted ring"<sup>9</sup> suggestive of an overactive inferior esophageal sphincter, demonstrated only on filling of the lower esophagus, has been reported by Ingelfinger and Kramer.<sup>9</sup> Radiographic and manometric studies, by the same investigators, indicate that the distal 2 to 3 cm. of the normal human esophagus, the vestibule, has characteristic motor function and plays an important role in the control of gastroesophageal reflux. The existence of reflux in patients with absolutely no evidence of herniation but who appear to suffer from chalasia stresses that vestibular dysfunction underlies some types of reflux. This concept of a vestibule alone permits explanation of the several motor abnormalities of

cardiospasm in terms of a single neurogenic disorder.

Despite the controversy over the various indirect causes of hiatus hernia, there are several well known direct causes which precipitate herniation and are important to proper therapy. An increase in intra-abdominal pressure due to obesity, pregnancy, abdominal tumors, coughing, vomiting, straining at stools, tight corsets or unaccustomed physical exertion is the primary factor. Allison has said that if you persuade a woman who wears corsets to remove them it will often be unnecessary to operate on her hernia; the same result may be obtained with the cessation of pregnancy or obesity. Decreased intrathoracic pressure plays little, if any, role. Neurogenic factors producing frequent or sustained esophageal spasm, as in peptic ulcer or gallbladder disease, is probably a factor in some younger individuals. If reflex contraction of the esophagus is unchecked for long in persons with pre-existing weakness in the anchoring mechanism of the lower esophagus, it is possible that a sliding hiatus hernia will develop. Zaino<sup>10</sup> stresses that some obvious hernias are seen only during spastic esophageal contraction, as when a formerly dormant peptic ulcer becomes active, or when an esophageal diverticulum appears. Senility, with atrophic changes, result in the loss of elasticity of the elastic tissue and general relaxation of the structures in the region of the lower esophagus.

**Classification** Many different terms have been used to designate various types of hiatus hernia. The simple one used here is generally accepted and is pragmatic, as it stresses the variations requiring modification of treatment be-

cause of special anatomy or pathology.

- 1) Paraesophageal Hernia (Parahiatal).
- 2) Sliding Hiatus Hernia (Short Esophagus)
- 3) Congenital Short Esophagus (Thoracic stomach)
- 4) Mixed Hiatus Hernia

In paraesophageal hernia the esophagus is normal in length, is attached to the diaphragm, and is not elevated above the diaphragm. The cardia lies in its proper place. Allison<sup>1</sup> believes that in many instances a "preformed" peritoneal sac remained in the thorax because of a fault in embryologic development, and as a result, a hernia could develop at any period in life. Barrett<sup>2</sup> concurs in the idea of a true hernial sac and suggests a persistence of the pneumato-enteric recess on the right and in front of the gullet. At first, only the fundus of the stomach is engaged in the hernial sac, but, as the hernia grows larger the entire stomach and omentum are drawn into the sac. The stomach may then rotate on its transverse axis, so that the greater curvature occupies the uppermost position. This is referred to as an upside-down stomach. Such hernias are usually small or moderate in size, but may become exceedingly large. Regurgication of gastric contents into the esophagus does not occur because the esophagus still enters the stomach at an acute angle and the dilated stomach may actually compress the esophagus. This type of hernia is less common, occurring in about 10% of cases.

Sliding hiatus hernia occurs in about 90% of cases and may produce the most distressing symptoms. The cardia and adjacent parts of lesser and greater curvature slide up into the posterior mediasti-

num, displacing the esophagus upward. The stomach hangs like a bell from the esophagus, which being elastic appears shorter. The acute angle between esophagus and stomach disappears, reflux appears and the esophagus may actually become shortened due to inflammatory changes. In the past, this was termed Short Esophagus Hernia, as it was thought that the stomach was displaced by contraction of fibrous tissue due to esophagitis. But the hernia precedes and causes the esophagitis and it should not be mistaken for the true congenital short type.

In Congenital Short Esophagus the "hernia" is due to a failure of the esophagus to lengthen, so that the stomach could not migrate caudad with the diaphragm and is held suspended in the posterior mediastinum. It is not a true hernia, as the stomach has never been below the diaphragm; the term thoracic stomach should rightly be limited to this anomaly.

The symptoms, which may start at birth, resemble those of sliding hernia including reflux esophagitis. At times, sliding hiatus hernia discovered shortly after birth can only be surely differentiated from the true congenital anomaly at operation. When cases of short esophagus are considered from the surgical standpoint, it is imperative not to confuse them with true hiatal hernias, for the surgical management is entirely different. This anomaly is a rarity (though, Harrington<sup>3</sup> reports a surprisingly high 5% in his series) and only the acquired variety will be discussed.

Mixed hiatal hernias combine sliding and paraesophageal types, with one element predominating. These are unusual numerically and often can not be diagnosed before operation.

**Symptoms** The symptoms of hiatus hernia may be vague and variable, and are often digestive, circulatory, or respiratory in character. Upper abdominal or retrosternal pain is most frequent. Initially, only a mild sense of epigastric fullness and distress which radiates through to the back may be noted. The pain may become very severe and radiate to the left side of the thorax or to the back between the shoulder blades. Characteristically, the distress usually begins after large meals and particularly after the patient has retired at night. Stooping or bending frequently induce or aggravate symptoms, as do wearing of any tight constricting abdominal garments or other acts increasing abdominal pressure. The distress may be described as bloating, fullness, tightness or as a sensation of a lump or ball. Sharp viscerospastic type pain in the lower thorax and upper abdomen may be due to spasm of the diaphragm and reflex cardiospasm. Dysphagia, usually in the lower substernal region, is perhaps the second most common symptom. A large herniated stomach, distended by gas, may temporarily obstruct the esophagus passing over the surface of the para-esophageal sac resulting in one form of intermittent dysphagia. Fullness after meals, gaseous distension, belching, vomiting, hiccup, cough, cough, dyspnea, palpitations, tachycardia, transient arrhythmias, cyanosis, are frequent complaints. Pressure on the heart and mediastinal structures results in many of these symptoms. Difficulty in belching and vomiting may be due to cardiospasm and hernial closure of the esophagus. Irritation of the diaphragm causes phrenic nerve pain referred to the left shoulder as well as hiccoughs. Weakness, pallor and ano-

rexia without gastric distress commonly are seen with anemia. The attacks may not vary in character but the severity often depends on the amount of stomach incarcerated in the hernia and the complications that may have developed. They can be aggravated by exertion, emotional stress, undue fatigue, the recumbent position and be relieved promptly on becoming upright. Duration is from minutes to hours, the distress recurring after any intake of food, or not for months.

Although any of these symptoms are found in all types of hiatus hernias, the patient with the sliding type is often most distressed by the results of reflux esophagitis. Burning peptic ulcer-type, lower sternal pain often is agonizing. It may radiate up to the neck and jaw, between the scapulae, to the precordium, to both shoulders and down both arms to the hands. Regurgitation into the mouth, vomiting, pain on swallowing and as the food descends the esophagus, may be marked. Dysphagia may become progressive as esophageal ulceration, fibrosis and stenosis increase. Persistent heartburn in a patient with hiatus hernia is a warning signal of trouble ahead.

**Complications** Reflux esophagitis with its sequelae of spasm, pain, bleeding and ultimately stricture and fixation of the esophagus is the commonest cause of morbidity and mortality. It occurs primarily in the sliding type of hernia, but may be present in a true paraesophageal hernia. Allison,<sup>1</sup> who esophagoscoped 157 of 176 patients with sliding hernia, found 63 with esophageal ulcers and stenosis, 73 with macroscopic superficial esophagitis with ulceration, and only 21 without visible esophagitis. Most other series<sup>2</sup> are in the range of

15% but if routine esophagoscopy is not done, the usual superficial inflammation and ulcerations will not be seen by x-ray alone. The severity of the symptoms does not correlate with the extent of esophagitis, and pain especially is not proportional to visible inflammation. The acid gastric chyme with its digestive action on the esophageal mucosa is the usual cause of inflammatory change. But some patients who have esophagitis at endoscopy do not appear to have acid reflux. Esophagitis can occur in the presence of achlorhydria. Many people without hiatus hernia who regurgitate their gastric contents do not develop esophagitis, nor do chronic ruminators. Barrett<sup>4</sup> stresses that the duodenal contents can do equal damage and post-op reflux from the duodenum must be prevented.

Some investigators believe that the presence of islands of gastric mucosa in the esophagus predisposes to peptic ulceration.

In most cases esophageal ulcers are shallow excoriations of the mucosa which bleed easily, heal and recur at variable intervals. They are not comparable to gastric or duodenal ulcers; they rarely cause massive bleeding, although by persistent oozing, an anemia may develop; they do not perforate or become malignant; they are situated just above the juncture of the esophageal and gastric mucosa; they rarely show on a barium swallow but are diagnosed at endoscopy.

Often with repeated episodes of digestion of the mucosa, the inflammation transgresses the muscle coats of the gullet and leads to fixation of the mucosa, fibrosis of the muscle, and eventually to a stricture in the wall of the esophagus. There is usually periesopha-

gitis in the mediastinum and the lymph glands become enlarged and adherent.

Two varieties of stricture occur. The common type is a linear constriction situated at the esophago-gastric junction. With narrowing of the stricture the digestion above decreases, the esophagus hypertrophies, but does not dilate as with the paralysis of achalasia. Progressive dysphagia becomes a prominent symptom and dilatation or surgery must be performed. A second rare variety occurs in children and is termed "ascending esophageal fibrosis." It is a solid mass of fibrotic tissue which grows up from the cardia totally replacing the normal esophageal layers with almost complete obstruction resulting.

Incarceration and, occasionally, strangulation of the herniated viscera may result in an acute surgical emergency. Signs of acute obstruction occur with severe pain, persistent vomiting and sometimes hematemesis. Incarceration of the stomach is due to fixation of the herniated portion secondary to inflammatory changes with adhesions, edema and occasionally volvulus. The fixation may develop rapidly, and an intermittent or temporary incarceration due to prolonged increased intra-abdominal pressure may occur in persons with few previous symptoms.

Traumatic erosion and gastric ulceration often occur where the amount of herniation of the stomach is large, particularly if incarcerated. The herniated portion of the stomach is usually dilated and unfolding of the mucosa is marked. Ulceration often occurs in the folds of gastric mucosa and also at the margin of the herniated portion of the stomach. These ulcers are not to be confused with esophageal ulcers, but are true gastric ulcers and behave as such.

The ulcers can heal under medical treatment as any ordinary gastric ulcer, and a gastric stricture below the cardia does not, of necessity, occur. Patients usually present symptoms of peptic ulcerations and may give a history of hematemesis or melena.

Massive bleeding occurs due to a chronic ulcer or to superficial erosions secondary to the congestion of the gastric mucosa produced by constriction of the vessels at the hiatus. Hemorrhage may be severe enough to exsanguinate the patient. Slow intermittent oozing over a long period of time is the more common occurrence and results in chronic secondary anemia without other symptoms. Sufficient emphasis has not been placed on the ability of these hernias to produce profound anemia with absent gastrointestinal symptoms. Hemoglobin levels to 2.0 gms. have been reported, yet these patients are invariably ambulatory, indicating gradual adjustment to the low Hgb. Often cardiovascular symptoms are prominent. Bleeding has been as frequent as 20% in some large series of hiatus hernia, which emphasized that it is not an unusual finding.

**Differential Diagnosis** Frequently, it becomes of paramount importance to differentiate angina pectoris from hiatus hernia. Both conditions may present with epigastric or substernal pain or distress, radiating to the left shoulder and down the arm into the fingers. The pain is aggravated by exertion, food and emotion, and relieved by belching, vomiting and nitroglycerin in both conditions. Indigestion, vomiting and other gastric symptoms are not uncommon in angina. Palpitation, dyspnea, cyanosis and precordial distress may be caused by large hernias with mediastinal

compression, though the small hernias more commonly simulate angina. The epigastric or thoracic pain developing in the recumbent position or when the patient is bent forward, and relieved by standing is characteristic of hiatus hernia. The pain or pressure of hiatus hernia is much more apt to radiate to the right chest and shoulder. Nitroglycerin does not relieve hernia symptoms as readily as angina, and its constant use is not invariably effective as in angina. Moreover, atropine, belladonna and antispasmodics or sedatives frequently relieve the distress of hernia but rarely of angina. Objective evidence to differentiate these two conditions can often be obtained according to Master,<sup>11</sup> by use of the two step test or the anoxemia test to confirm coronary artery disease. Master stresses that the two conditions, which occur in the same age group, often co-exist. Therefore, the finding of one does not exclude the other. It is of interest that anemia, hemorrhage, shock, severe vomiting, which may occur in conjunction with hiatus hernia are common precipitating factors of acute coronary insufficiency. Therefore, the clinical importance of each of these diseases should be properly evaluated, especially if surgical treatment of hernia is contemplated.

Master believes that almost all cases with hiatus hernia and typical angina have associated coronary sclerosis, and he stresses that a hiatus hernia can produce anginal pain by reflex vasoconstriction. This is based on the diminution in blood flow through the coronary arteries of dogs when the stomach was distended, and it is believed to be a vagal reflex effect since it could be abolished by vagotomy or atropine. However, other studies in dogs failed to

demonstrate any significant decrease in coronary blood flow following stimulation of the intact vagus below the heart or distention of the abdominal viscera. Bockus<sup>12</sup> also believes that vagal stimuli originating in the lower esophagus and stomach may diminish coronary blood flow.

A more generally accepted explanation<sup>2</sup> is that the distribution of pain produced by hiatus hernia is governed by the visceral afferent pathways arising from the esophagus, stomach and diaphragm. Pain stimuli originating in these structures are carried by visceral efferent neurons and is manifest by referred pain. Pain stimuli from the heart travel over the pathways of the first to sixth thoracic segments. Pain from the tendinous part of the diaphragm goes by the afferent fibers in the phrenic nerve and is referred to the skin areas of the second to fifth cervical segments. Thus, with irritation of the tendinous diaphragm, pain is felt in the shoulder and down the arm. The esophagus is supplied by the first to sixth thoracic and eight cervical segments, accounting for pain down the forearm and down the little finger. The fundus of the stomach refers pain to the high epigastric region by the seventh to ninth thoracic segments. Therefore, distention of the esophagus or herniated stomach will produce typical anginal pain by radiation through these afferent sensory nerves. Diaphragmatic irritation and spasm, from stretching by the hernia, produces shoulder pain.

Chronic cholecystitis, cholelithiasis and peptic ulcer are important to distinguish, not only because they mimic the symptoms of hiatus hernia, but severe vomiting attacks may be dangerous with a fixed hernia or precipitate a new

hernia. These entities are common in the same age group as hiatus hernia and are the most common diseases found concomitantly. A careful evaluation of the history will often determine which entity is the source of most of the distress.

Carcinoma occurs in the same age group and a provisional diagnosis of cancer is often made if the symptoms have been of short duration. Carcinoma in the herniated stomach is rare.

**Esophagoscopy** This examination is considered essential by most authorities. It is more reliable than x-ray in differentiating the congenital short esophagus from sliding hernia and will determine the presence of esophagitis, peptic ulceration, stricture and spasm. It may demonstrate the presence of unrelated lesions as carcinoma, mucosal tumors or cysts, and diverticulum of the esophagus. The finding of complications of hernia as well as other lesions will often change the management.

At esophagoscopy, the mucosa appears congested, thickened and redundant. The instrument may be obstructed by the redundancy, due to the shortened esophagus. At the lower end the inflammation is more pronounced, the mucosa bleeds easily, and small erosions 2 to 3 mm. in diameter are present. The mucosa between the ulcers is edematous and thickened.

**Roentgenology** X-ray is the essential diagnostic procedure and is fairly accurate in most cases. The Trendelenburg position with the Valsalva maneuver has become routine, but many authorities<sup>13</sup> prefer fluoroscopic examination with the patient in prone and right oblique position, manual pressure over the abdomen, rapid, deep breathing and straining, straight leg raising, and

polygraphs<sup>6</sup> using oil contrast in the prone and right oblique positions. Any procedure which will increase intra-abdominal pressure, without increasing intrathoracic pressure, is more likely to demonstrate hernias unfilled by the routine G.I. Series. Often several examinations are needed to demonstrate a hernia and the clinician must order repeated studies if a hernia is strongly suspect.

**Hiatus Hernia** and its complications must be differentiated on x-ray from various entities.<sup>10</sup>

1) A large Phrenic Ampulla can be the most confusing. If the ampulla shows a notch on each border it is easily identified, but this is infrequent. Two important points are the presence of mucosal folds in a hernia characteristic of gastric mucosa, and the transient nature of the phrenic ampulla.

2) Epiphrenic Diverticula are diagnosed by demonstrating a neck or direct continuity of the esophageal mucosa with the pouch.

3) Chalasia, or persistent relaxed vestibule, is much more common in children and is due to cardioesophageal relaxation.

4) Cardiospasm shows a persistent beak-like contraction at the distal end of the esophagus with resultant dilatation of the esophagus above and stasis of media. The area of narrowing must be differentiated from esophagitis and carcinoma. In esophagitis there is marked irritability and seldom is there obstruction except with stricture.

5) Stricture is usually located above the level of the "inferior esophageal sphincter."

6) Carcinoma of the annular type presents a rigid tubular contraction which is not in most cases perfectly smooth or symmetrical, and obstruction is not as

marked as in achalasia

7) Esophageal varices give cobbled or grooved irregularities and scalloped edges in a somewhat dilated esophagus.

8) Prolapse of gastric mucosa into the lower esophagus shows a mushroom-like inconstant filling defect at the lower end of the esophagus especially during regurgitation or belching.

9) Contractile Ring is a new entity which is either a congenital band or hypertrophy of the lowest esophagus, and is noted on a full esophagus without evidence of obstruction.

**Treatment** The majority of patients can be treated medically if the hernia is small and without complications. Anything which encourages a marked increase in intra-abdominal pressure should be avoided. As most patients are obese, weight reduction is essential. Tight, constricting corsets and abdominal supports should be avoided. It may be necessary to prohibit strenuous exercise, particularly if it involves bending or lifting. If straining at stools is a factor, it should be relieved. Coexistent disease may be responsible for coughing or vomiting and the eradication of the cause of these symptoms is necessary. The patient should learn to sit up straight, particularly after meals, and should not lie down after eating. He should sleep in a semi-recumbent position on his right side.

Dietary management is important to prevent overdistention of the herniated portion and to keep the acid low. A bland, low roughage diet, with avoidance of large meals especially in the evening, and frequent small feedings, is recommended. In the absence of achlorhydria, non-absorbable alkali should be given. Antispasmodics may be needed to relieve spasm. If the symp-

toms of esophagitis develop, a strict ulcer regimen and frequent endoscopies to determine the status of the esophageal mucosa are needed, if stenosis is to be prevented. In the patient with anemia due to bleeding, maintenance iron will be required. Esophageal dilatation to relieve significant localized stenosis may be indicated, and may obviate the need for surgery in the poor risk patient.

Surgery is usually not required since most patients with hiatus hernia are elderly and will remain comfortable on a careful medical regimen. In the young, especially with recurrent severe symptoms, repair to prevent esophagitis must be considered. If medical management fails or complications occur, surgery is indicated. Harrington<sup>5</sup> believes that if a third or more of the stomach is involved, surgery is indicated to prevent possible incarceration. Recently, the English surgeons have stressed early repair to prevent complications. Allison<sup>1</sup> urges surgery in sliding hernias at the first sign of esophagitis because stenosis occurs if the condition is neglected and the results of repair are very poor after stenosis. He believes that it is more important to restore the physiological function of the cardia than to obtain a perfect anatomic result. Tanner<sup>14</sup> lists the main operative indications.

- 1) Chronic esophagitis associated with pain, or recurrent bleeding which resists medical management.
- 2) Penetrating ulcer of the esophagus or severe stricture formation, except in the very aged.
- 3) Massive hernia, associated with breathlessness or cardiac embarrassment.
- 4) Recurrent gastric obstruction in the sac.
- 5) Acute emergencies—e.g. acute

obstruction in the sac or ulcer perforation.

- 6) Associated with cardia cancer.
- 7) Associated gastric, duodenal or stomach ulcer or gallstones.

When surgery is indicated there are two routes—the abdominal and the thoracic. Both have their advantages, but in recent years since thoracic surgery has become less formidable, the thoracic approach has rapidly gained in popularity. In an exploratory laparotomy is desired at the same time or if there are pleural or thoracic complications, the abdominal route should be used. In most instances, the thoracic approach appears to offer a better repair with less frequent recurrences. The short esophagus type of sliding hernia can be handled better with this technique because there is wide exposure of the operative field and fewer post-operative complications. The varied techniques used for repair are well described by various authors, and whichever approach the surgeon has mastered will undoubtedly give the best results in his hands. At present, mortality and morbidity are low, and recurrences are rare.

The phrenic nerve is temporarily or permanently interrupted by some surgeons in the belief that this will allow for relaxation of the esophageal hiatus, thus permitting a better repair and healing. In the elderly debilitated patient for whom major surgery is too great a risk, phrenic section has been used as the sole procedure and may promptly eliminate symptoms.

### Prognosis

**Hiatus hernia rarely proves fatal when discovered late in life. However, permanent relief of symptoms cannot be obtained in many pa-**

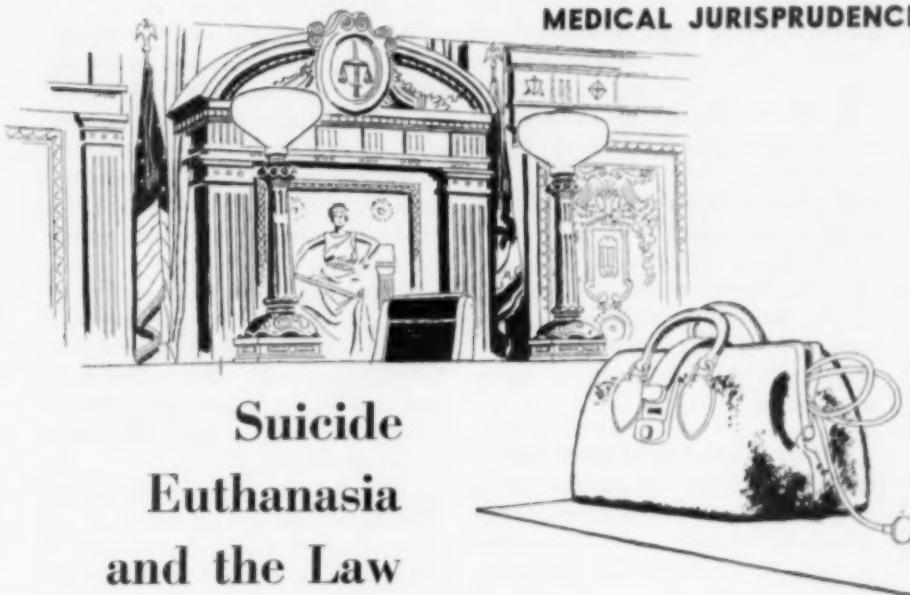
tients, often because of unwillingness to adhere to a regimen.

In the past, it was believed that serious complications, especially from the small hernia, are exceedingly rare, but in the last decade our outlook is changing. The apparent discrepancy between the early treatment of esophageal hiatus hernia and other abnormal hernias led Sprafka to investigate the fate of small hiatus hernias. His data substantiate the view often expressed by Harrington and others that this is a progressive disease as far as the size of the hernia is concerned. Thirteen per cent of the hernias followed less than five years and 58% followed more than six years, progressed from small to large hernia. Of greater clinical

importance is the high incidence (28%) of complications of ulcer, esophagitis or stricture singly or in combination in the herniated stomach. Experimentally, it was found in dogs, that the ulcer diathesis is greatly abetted by large hernias. From such data, esophageal hiatus hernia appears to be a potentially serious disorder. It is suggested that patients with small hernias be kept under constant observations. Consideration must be given to the early repair of these hernias, should enlargement occur and before complications become manifest. In the future, increasingly early surgery should produce a decreased morbidity and mortality from hiatus hernia.

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## Suicide Euthanasia and the Law

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The legal definition of suicide is "the deliberate termination of one's existence, while in the possession and enjoyment of his mental faculties."<sup>1</sup> If self-destruction is the result of accident, mistake, insanity or insane impulse the legal consequences of committing suicide do not ensue.

**Is Suicide a Crime?** The act of suicide has been viewed differently both morally and legally in various ages and stages of civilization. At times the act of self-destruction was allied with a sense of religious duty, or a sense of honor. The Stoics considered suicide as praiseworthy and at times even prescribed by duty itself. Roman jurists did not consider either attempt at, or suicide itself by civilians as a crime. It was, however, otherwise in the case of soldiers.

The canon law, however, held that suicide or its attempt was infamous, and should be attended with punishment so far as this was possible.

Under the English common law, upon which our basic legal structure was erected, suicide was a felony. The successful suicide was punished by forfeiture of the felon's lands, goods and chattels to the king and ignominious burial in the public highway with a stake driven through the body.

The English law of forfeiture and ignominious burial were held inapplicable to our institutions,<sup>2</sup> and in most jurisdictions suicide is not a crime.<sup>3</sup> There are some states, however, which hold suicide to be a felony<sup>4</sup> or lesser crime.<sup>5</sup>

In New York, neither suicide nor attempted suicide is a crime. While the

act of suicide is censured in the New York Penal Law which declares:

"Although suicide is deemed grave public wrong, yet from the impossibility of reaching the successful perpetrator, no forfeiture is imposed,"<sup>9</sup>

neither the act nor the unsuccessful attempt is punishable.

It is not to the successful actor that the criminality of suicide is significant. Rather, the acts of attempted suicide, aiding and abetting suicide and certain civil aspects of the question give rise to its problems.

**Criminal Liability of Participants in Suicide** *Defendant, at the request of his wife, an incurable invalid, mixed poison and placed it within her reach so that she could take her own life.<sup>10</sup>* In appealing a conviction of murder in the first degree the defendant contended that his wife committed suicide, and since suicide is not a crime in Michigan, he could not be found guilty of murder for furnishing her the means to accomplish suicide. The court sustained his conviction for murder by means of poison.

The majority of states hold with the Roberts case above, that one who helps another to commit suicide is guilty of murder. In Texas, however, a person who furnishes another with the means of committing suicide is not guilty of any crime. The court said in one case:

"So far as the law is concerned, the suicide is innocent; therefore the party who furnishes the means to the suicide must also be innocent of violating the law. We have no statute denouncing suicidal acts; nor does our law denounce a punishment against those who furnish the suicide with the means by which

the suicide takes his own life."<sup>11</sup>

This language was substantially repeated in a later Texas case where the defendant was held not guilty of murder for inducing another to take poison which resulted in the latter's death. The person who swallowed poison knew the character of the poison and took it voluntarily for the purpose of committing suicide.<sup>12</sup>

Thus in Texas a person could be guilty of murder in a suicide case only if he actually killed the victim or forced him to kill himself. Most other states hold that it is a crime for anyone to incite, induce, encourage, or aid another to commit suicide.

As a rule it is not a crime to aid another to commit an act which is not criminal. New York, where suicide is not a crime, specifically punishes such acts as instigating, aiding and abetting suicide by making them crimes *sui generis*. The crime is manslaughter in the first degree or a felony, depending upon whether the suicide was successful or an unsuccessful attempt.<sup>13</sup>

**Euthanasia** (Greek, eu, well—thanatos, death) is the mercy-motivated killing of a human being. When there is a voluntary killing of an incurably ill person based upon an altruistic motive, the act is usually performed with premeditation and deliberation which are the requisite elements necessary to the conviction of murder in the first degree. As we saw above in the *Roberts* case<sup>14</sup> this classification of first degree murder is extended in some jurisdictions to acts of aiding a suicide, in the *Roberts* case by supplying the poison which was otherwise inaccessible to the victim.

Recently there has been much controversy over the legal justification of euthanasia in this country.<sup>15</sup> Motive



is not an element in a conviction for homicide in this country today, although many people may consider a killing motivated by mercy less reprehensible than killing for a base motive. Even those people who do not condone euthanasia deplore the non-uniformity of law on the subject. For the sympathies of the public toward mercy-killers cause the law in many jurisdictions to be circumvented by various methods, leading to an inequitable distribution of justice. The following cases so evidence.

In some cases mercy killers are not indicted at all. In other cases they are indicted and convicted of a lesser crime than that justified under statutory law and put on probation. In *Repouille v. U. S.*<sup>14</sup> defendant deliberately put to death his son a boy of thirteen, by means of chloroform. "His reason for this tragic deed was that the child had suffered from birth from a brain injury

which destined him to be an idiot and a physical monstrosity malformed in all four limbs. The child was blind, mute and deformed. He had to be fed; the movements of his bladder and bowels were involuntary, and his entire life was spent in a small crib. Repouille had four other children at the time toward whom he has always been a dutiful and responsible parent; it may be assumed that his act was to help him in their nurture, which was being compromised by this burden imposed upon him in the care of the fifth. The family was altogether dependent upon his industry for their support.<sup>15</sup> Repouille was indicted for manslaughter in the first degree; but the jury brought in a verdict of manslaughter in the second degree with a recommendation of the "utmost clemency"; and the judge sentenced him to not less than five years, nor more than ten, execution to be stayed and defendant was placed on probation from which he was discharged five years later.

Judge Hand points out the moral revulsion of the jury from bringing in a verdict of what was clearly first degree murder, bringing instead a verdict which was flatly in the face of the facts and utterly absurd (since manslaughter in the second degree presupposes that the killing was not deliberate), the verdict and sentence clearly indicating the sympathies of trial judge and jury. The inequities of this legal system are clear since as he points out a similar offender in Massachusetts while not executed, was imprisoned for life.<sup>16</sup>

In the case of *State v. Sander*<sup>17</sup> defendant, a physician, was accused of the murder of his cancer-ridden patient by the injection of 40 c.c. of air into a vein

of the patient's arm shortly before her death.

The defendant dictated into the hospital records a statement that he had injected ten cubic centimeters of air four times into the veins of an incurable ill suffering cancer patient, and that she "expired within ten minutes after this started." He subsequently dictated the same facts to his nurse, and later made similar admissions to local enforcement authorities and others, making such statements on the day of his arrest and immediately thereafter. The defendant was acquitted by a jury on the ground that there was no sufficient proof of causation.

In 1950 Carol Paigt, a college girl, was acquitted by the jury on charge of second degree murder (which carries a mandatory life sentence in Connecticut) of killing her hospitalized father who was fatally ill from cancer. The ground of acquittal was that of temporary insanity at the time of the commission of the act.<sup>18</sup>

In Michigan, Eugene Braunsdorf, a symphony musician, was acquitted by reason of insanity in the mercy killing of his crippled adult daughter who had required hospitalization all her life.<sup>19</sup>

But in Allentown, Pennsylvania in the same year, Harold Mohr, indicted for the mercy killing of his blind cancer-stricken brother, was convicted of voluntary manslaughter and sentenced to from three to six years in prison and \$500 fine, even though he also pleaded temporary insanity and even though, in contrast to the other cases, there was in the Mohr case evidence that the accused had killed his brother upon the latter's urgent and repeated requests. The relatively lenient sentence imposed on Mohr was a result of the jury's recommenda-

tion of mercy. On sentencing the defendant, the judge pointed out that the defendant had acted as a martyr and must suffer punishment as the price of martyrdom.<sup>20</sup>

In the *Mohr* and *Roberts* cases where deceased in both instances desired to commit suicide, the euthanasia amounted to aiding a person to commit suicide. Some advocates of euthanasia laws think that request for or consent to homicide should legalize this homicide in some manner or at least mitigate the penalty. Such advocates limit these cases to incurable and hopelessly painful subjects who consent to or request the actor to put an end to their suffering. The objective is the merciful one of reducing the needless suffering of the subject for his sake. The troublesome cases such as the *Repouille* case which involve a subject who could not consent would be outside the scope of this limited law.

Other writers favor no change in the system but "trust for a while yet to the imperfect but elastic equity in the administration of the law as written."<sup>20A</sup>

**Suicide and Insurance** In an Illinois case in the early 1900's insured committed suicide. Under the provisions of the Constitution of the Insurance Company the insurance certificate was made null and void if the members died by reason of violation of the criminal law. In an action on the policy the company contended it was not liable since suicide was a crime. The court held that the company was liable on the policy since suicide was not a crime in Illinois.<sup>21</sup>

Suicide is a crime involving moral turpitude in Alabama. The insurance policy of *Penn. Mutual Life Ins. Co. v. Cobbs*<sup>22</sup> contained a clause to the

effect that suicide voided the policy. The issue raised in the case was whether deceased committed suicide. The court held that the presumption of innocence obtained as it does in every trial where criminal intent is in issue, and that this presumption could be overcome only by a preponderance of evidence. This is more evidence than required in the usual civil case, and the insurance company failed to prove suicide.

Insured sued under a disability policy for benefits for permanent loss of sight of both eyes as a result of an attempted suicide. While the policy did not restrict liability for disability benefits in cases of attempted suicide, the insurance company interposed as a defense that suicide and its attempt were immoral and an infamous crime at common law, and it would be against public policy to permit one to profit by his own fraud, or take advantage of his own iniquity. The court held that attempted suicide was not an offense in Indiana, and the company could easily have inserted a clause in the policy cancelling it in case of suicide had such a clause been within the contemplation of the parties.<sup>23</sup>

In a 1944 Georgia case one clause in a life insurance policy provided that the company was not liable "if the insured, whether sane or insane, shall die by his own hand or act within two years from the date of issue of this policy."<sup>24</sup> Insured within two years from the date of issue of the policy died by jumping from a sixth story window of a hotel by reason of an hallucination to escape from his imaginary enemies. The insurer was held liable on the policy since the insured did not realize that his act would as a natural consequence produce his death. In other words it was held even under the quoted clause that an

"intention" on the part of the insured to take his own life was necessary to constitute "suicide," whether the intention was a sane or an insane one.<sup>25</sup> This case is still somewhat of a minority view, although recently more courts have been adopting it. The other view is that where the policy states "sane or insane" the very act of self-destruction defeats recovery in a life insurance policy.<sup>26</sup>

Insured committed suicide by lying across railroad tracks in such a position that his head was severed from his body by the wheels of an oncoming train. At the time of the suicide the insured was "so insane as not to comprehend the nature of the act or of the physical result which would flow from it."<sup>27</sup> The court held that for this reason death was accidental within the meaning of an accident policy insuring against bodily injuries from external violent and accidental means. The death was unexpected and unintended and thus was death by accident. The authorities are in accord with this view, although there is some opinion to the contrary in cases where the insured, though insane, was conscious of the act he committed and was not driven to the commission of the deed by an insane impulse which he had not the power to resist.<sup>28</sup>

**Other Forms of Civil Liability for Death by Suicide** There are many cases on record in which plaintiffs seek to recover damages for death of deceased where the immediate cause of death was suicide, allegedly committed while deceased was afflicted with insanity resulting from injury by defendant. The law on the subject has not changed since 1882 when the leading case of *Scheffler v. Washington City, V. M. & G. S. R. Co.*<sup>29</sup> was decided. In that case

a passenger was injured about his head, neck and spine in a railway collision. Plaintiffs alleged that deceased became disordered in mind, brain and spine because of the injuries, that his reasoning powers became prostrate and he took his own life. The court held that the insanity and suicide were not a natural or probable result of the negligence of the railway officials, but that unexpected causes intervened between the act which injured him and his death.

In other words an act of suicide resulting from a moderately intelligent power of choice, even though the choice is determined by a disordered mind is deemed a new and independent cause of death. But if deceased acts without volition under an uncontrollable impulse without understanding the physical nature of his act the rule is otherwise.

A druggist who negligently or illegally sells drugs to a person who thereupon commits suicide is not liable to his heirs for his death. But by statute in many jurisdictions one who provides a person with intoxicating liquor is liable for the wrongful death of that person if the liquor thus provided was the cause of deceased's intoxication which in turn was the cause of suicide.

**Liability of Hospital for Suicide**  
**Patient Deceased**, a ward patient, while in a temporary fit of insanity not previously displayed arose from her bed unobserved, found her way to the toilet room of that floor, leaped from the window, and was killed by her fall of four stories to the ground below.<sup>29</sup> The court held the house surgeon and hospital free from liability for her death. "An injury to her health, due to interference with the success of the operation by her incautious movements is the utmost that could in reason be apprehended. Her



death in the manner detailed was not to be expected. It was not shown that there was any possible ground for apprehending a suicidal tendency on her part."<sup>30</sup> There was no reason to place a special watch on decedent all night.

In a Missouri case a surgeon of a hospital who had charge of an insane person placed him aboard a train unattended and without notice to his family. The surgeon knew deceased would have to find his way home in a populous city. Deceased wandered about the streets lost for about two hours, and then, partially disrobed, lay down on the street car track and was killed by a

street car shortly thereafter. In holding that the liability of the hospital was dependent on deceased's actual insanity the court said that deceased's act could have reasonably been anticipated by the surgeon.<sup>31</sup>

The most important single factor in determining whether or not a hospital was negligent in failing to prevent the suicide of a patient is whether or not the hospital authorities under the circumstances could reasonably have anticipated that the patient might harm himself.

In a 1952 case deceased jumped from a hospital window while suffering from post partum psychosis following the delivery of a child. The suicide took place while the patient's private physician was in the doorway with his back to the patient, and the woman's special nurse left to make a telephone call at patient's request. There was proof that the hospital knew of the woman's disturbed mental condition and did not advise her private physician of her irrational behavior before the suicide. No measures were taken to safeguard the patient other than to tuck the bedclothes in the bed. Under these circumstances it was held that the hospital was obligated to use reasonable care to prevent the woman from injuring herself.<sup>32</sup> A dissenting opinion felt that patient's private physician and special nurse were negligent in that they left patient unattended even for a short period of time, and that they and not the hospital should bear legal responsibility for the act.<sup>33</sup>

**Suicide and Workmen's Compensation** The cases in Workmen's Compensation in which there was injury prior to suicide have been decided in the same way as the insurance cases

and cases of wrongful death by injury, so where insanity and suicide follow an injury to a workman which was otherwise compensable, compensation may be awarded if the workman took his own life through an uncontrollable impulse, or in a delirium of frenzy and without conscious volition to cause death. But where there is wilful choice, though insane, the suicide is not compensable.

One case has been found holding that suicide is compensable even without injury so long as it arose out of the course of employment and was caused by the employment. In this case a librarian who was temperamentally overconscientious and zealous for the good of the library worked many more hours than required. In addition she did voluntarily work outside for other library associations. She had by hereditary a predisposition to mental trouble. The long hours of work caused excessive fatigue, and a physical breakdown occurred followed by nervous breakdown resulting in suicide. The act was due to uncontrollable impulse for which she was not normally responsible.<sup>34</sup>

**Pensions and Suicide** Whether a policeman or fireman who commits suicide while sane is entitled to a pension depends on the ordinance or statute providing for payment of the pension. Under a New Jersey Pension statute providing for payment of a pension if the police officer "died from causes other than injuries received in the performance of duty" the petitioner was held entitled to the pension. The court regarded the provisions of the statute as in effect providing insurance for survivors.<sup>35</sup>

But a pension to the widow was denied in an Indiana case where her husband on duty as a policeman shot three

others before killing himself. The court said there was no relation between the act of self-destruction and the deceased's duty as an officer.<sup>36</sup>

The widow of a person who commits suicide while insane is entitled to the pension where the insanity is directly traceable to a previous injury incurred while in the line of duty. In this line of cases there is no discussion of volitional acts while insane or uncontrollable impulse. The only issue is whether insanity and suicide resulted from an injury acquired in the line of duty, or from other facts independent of the in-

jury. In a 1946 case the court held that decedent's death by suicide was the result of mental illness caused by excessive drinking, not by any injuries received while engaged in his duties as a police officer.

The court reached this conclusion despite a great deal of evidence tending to show a change in decedent's mental attitude following a serious injury twelve years prior to his death which resulted in one leg being shorter than the other and which necessitated the use of a brace and crutches for a long time.<sup>37</sup>

### Summary

1. The legal definition of suicide is "the deliberate termination of one's existence, while in the possession and enjoyment of his mental faculties."

2. Suicide is not a crime in most American jurisdictions.

3. The majority of states hold, however, that one who aids or abets the commission of suicide of another is guilty of the crime of murder.

4. Euthanasia is the mercy-motivated killing of a human being.

5. In this country, euthanasia is murder, even when committed upon request of the person killed.

6. The sympathies of juries towards mercy killings often cause the law to be circumvented by various methods, making for great inequities of the legal system.

7. These inequities have led some persons who do not condone euthanasia morally to join with those who do in working for a reform of the laws of homicide to include legal recognition of and administration of euthanasia.

8. When a life insurance policy states that the company is not liable on the policy if the deceased commits suicide "whether sane or insane" a slight majority of jurisdictions hold that the act of suicide itself defeats recovery on the policy; a growing minority hold, however, that where the act of suicide was committed while under an insane compulsion without realizing the natural consequences of the act, the company is liable on the policy.

9. Suicide while insane is considered accidental death under accident insurance policies.

10. If deceased commits suicide under an uncontrollable impulse and if his insanity was caused by injury from accident, recovery may be had under Wrongful Death Statutes. The rule is otherwise if suicide results from an act of will.

11. A druggist who negligently or illegally sells drugs to one who thereupon commits suicide is not liable for that death.

12. One who provides a person

with intoxicating liquor is liable for the death of that person if the liquor thus provided was the cause of deceased's intoxication which in turn was the cause of suicide.

13. The most important single factor in determining the liability of a hospital or physician for the suicide of a patient is whether or not the suicide could have been reasonably anticipated. Once this is determined the next factor is whether reasonable precautions were taken to prevent the suicide.

14. Suicide is compensable under Workman's Compensation if it fol-

lows compensable injury and is the result of insane uncontrollable impulse. One case indicates suicide is compensable even without injury so long as it arose out of and was caused by the employment.

15. The statute or ordinance which provides for pensions determines whether the widow of a suicide committed while sane is entitled to the pension. The widow of a suicide committed while insane is entitled to pension benefits so long as the suicide was a result of injuries acquired in the line of duty.

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133 East 58th Street

# The Kielland Forceps

This instrument was devised for use with heads in deep transverse arrest, but it has found favor for application to posterior heads, face and brow presentations, and heads arrested at the inlet. It is frequently preferred for high forceps deliveries since more accurate application is possible.

**Construction** This forceps has a slight pelvic curve which is backward, overlapping shanks with an extra long distance between the heels of the blades and the intersecting point of the shanks, and a sliding lock designed to care for asynclitism. The inner surface of the blades is beveled. Knobs on each anterior surface of the finger guards identify the anterior surface of the instrument, and act as a guide in the application (Fig. 1).

**L.O.T. Position** Since the Kielland is a special type of forceps, its application does not follow the prescribed technic. The anterior blade is applied first. In left-sided positions the left ear is posterior and the right ear is anterior, therefore the right blade is applied first. After careful checking to make certain that the right blade (without lock) is being handled, it is held in an inverted manner with the inner surface of the cephalic curve facing upward and the shank 45 degrees above the horizontal. Now, with the handle in the right hand and the blade resting in the left palm, the index and middle finger tips of the same hand are inserted under the symphysis to the anterior lip of the cervix (Fig. 2). The toe of the blade is guided inside the cervix and kept close to the head until the fenestration is no longer visible. By this time, the handle is about 45 degrees

From FORCEPS DELIVERIES, by Edward H. Dennen, M.D., Professor of Obstetrics and Gynecology, Director of Department and Attending Obstetrician, New York Polyclinic Medical School and Hospital. (Publisher—F. A. Davis Company, Philadelphia, Pa. \$6.50).

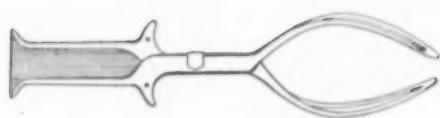


FIGURE 1

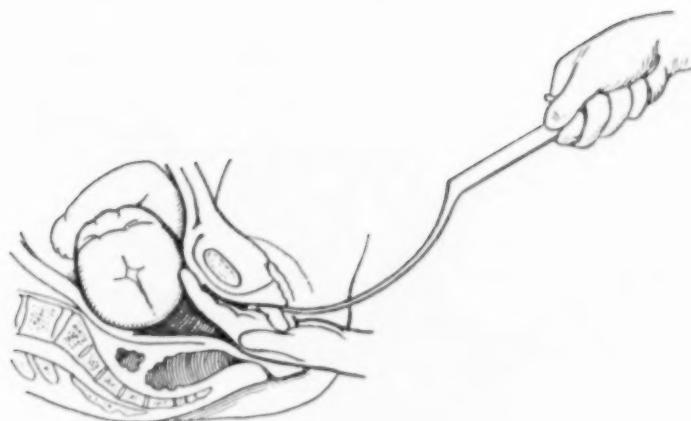


FIGURE 2

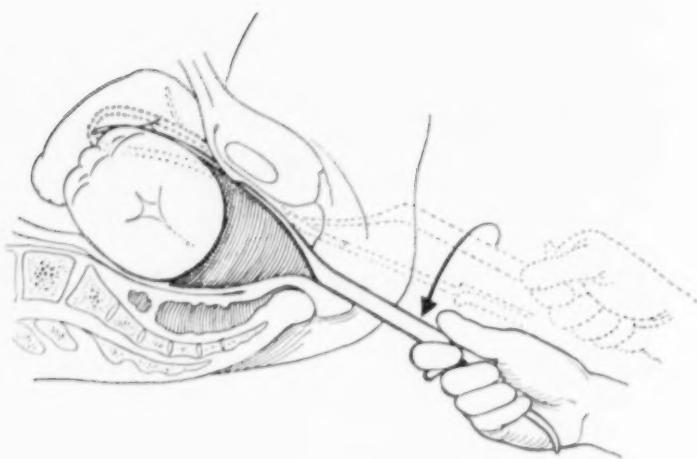


FIGURE 3

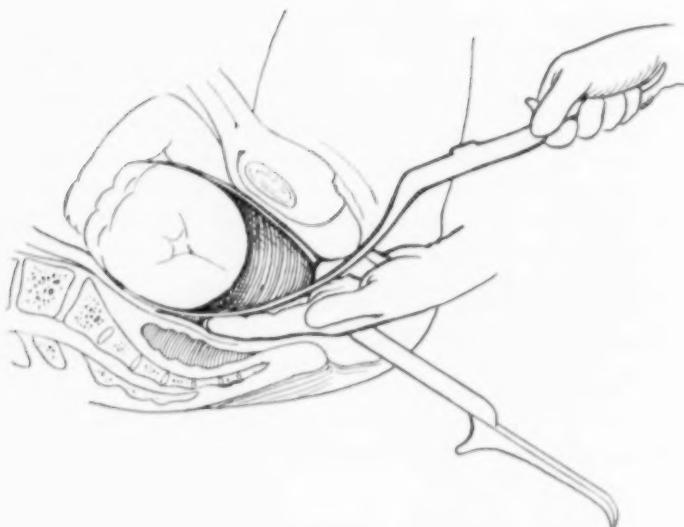


FIGURE 4

below the horizontal and the fenestration should be opposite the anterior cheek. The station of the head in the pelvis will govern the insertion of the blade.

Since the blade has been introduced with the cephalic curve away from the head, it must be rotated on its own axis *away* from the occiput. With the handle still in the right hand and the thumb against the finger guard, it is turned counter-clockwise over an arc of 180 degrees. The cephalic curve now coincides with the curve of the head (Fig. 3).

The posterior or left blade is introduced posteriorly between the shank of the anterior blade and the patient's right thigh. The blade with cephalic curve up is guided by the finger tips along the side of the head (Fig. 4). When the blade is opposite the left ear, the shanks are fastened by the sliding lock.

**R.O.T. Position** The left ear is anterior so that the left or anterior blade (lock attached) with cephalic curve turned away from the head is introduced, then rotated in a clockwise direction away from the occiput toward the midline. The posterior blade is applied between the shank of the anterior blade and the right thigh, as in the L.O.T. position. The head is rotated clockwise to the anterior position.

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**STOP!**

at "Coroner's Corner"  
Page 29a

Read the stories Doctors write of their  
unusual experience as coroners and medi-  
cal examiners.

—in every month's issue of  
**MEDICAL TIMES**

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# Clinico-Pathological Conference

**From the Haynes Memorial, Division of Massachusetts Memorial Hospitals, and the Departments of Medicine and Pathology, Boston University School of Medicine.**

**N. JOEL EHRENKRANZ, M.D.<sup>1</sup>  
RICHARD H. MEADE III, M.D.<sup>2</sup>  
SHELDON C. SOMMERS, M.D.<sup>3</sup>**

A 5½-month-old female infant of Italian ancestry was hospitalized because of cyanosis with coughing for 5 days. Her mother had previously had a miscarriage and a premature child dying after 6 days.

The child was born at 7 months, just under 5 lbs., and birth weight was regained after 2 months in the hospital, during which time a cervical abscess was drained. There were no immunizations, but at 3 months the baby was considered healthy.

**Prior to Admission** Eight weeks before admission, after exposure to pertussis, she began to breathe heavily, with excessive mucus in the throat. She was given nose drops, cough syrup, and pertussis vaccine in 7 injections, 8, 7, 6, 5, 4, 3 and 2 weeks before hospitali-

zation. Penicillin was injected twice. The child continued to cough severely, without definite whoops, and then began to show cyanosis and excessive mucus.

**Physical Examination** On admission, T 100.8° (R) P 170 R 70. A seriously ill, poorly nourished infant with a thick tenacious white mucus mass in the mouth which was aspirated with difficulty. Slight miliary rash was present, and hair absent over the occiput. Mouth and throat were injected. The lower chest retracted inward with inspiration, and there were moist rales over both lungs, with coarse breath sounds. Expiration seemed prolonged. Small umbilical hernia was found, and examination was otherwise negative.

**Laboratory Data** Hinton and tuberculin tests were negative; Schick positive. HB 9.6 gm., 11.6 after a 70 cc. transfusion. WBC 20,500 to 39,600, P 63, L 36, M 1, E 0. Cultures of blood:

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<sup>2</sup> Associate Visiting Physician, Department of Infectious Diseases.

<sup>3</sup> Chief of Pathology.

2 showed no growth, 1 non-hemolytic staphylococcus, non hemolytic staphylococcus and alpha streptococci in the throat, and later *H. influenzae*. Spinal fluid was negative. X-rays showed accentuated markings with a triangular left lower lobe density, consistent with broncho-pneumonia and atelectasis. Later, increased density was found in right lower lobe. Slow radiologic resolution occurred over a 21-day period, but with extension in the right upper lobe.

**Course** During 27 days there was a gradual decline. Oxygen tent, 1:1000 adrenaline 0.1 cc. ephedrine 0.03 gm., penicillin 15,000 units and streptomycin 100 mg. were used. Three injections of hyperimmune anti-pertussis serum and 4 blood transfusions were administered. The liver became enlarged 3 days before death, but after digitoxin the pulse of 160 fell to 130. Cough was relatively weak and no sputum was ever raised.

### Anemia

**Dr. Ehrenkranz:** This is a very complicated problem. I might point out a few unrelated things as I review the protocol.

The Italian ancestry raises the question of whether or not this child might have Cooley's anemia. There is no mention of the physical findings that would be consistent with this, such as mongoloid facies, hepatosplenomegaly, and evidence of jaundice.

The anemia is, I suppose, more consistent with infection, although other possibilities at the moment are not to be ruled out. The fact that the mother has had a miscarriage, a premature child that died, and the patient also was premature may not be significant. On

the other hand, this is the time—late in pregnancy—when, particularly due to syphilis, the mother is likely to miscarry. Six or seven month abortions are not infrequent with involvement of the placenta by lues.

We are told that the child's Hinton test was negative, and presumably if the child was born in this state the mother's Hinton test also must have been done and was probably negative. We might conclude that this is a mother who happens to have early children, some of whom survive and some who don't.

The fact that the child was born weighing five pounds at just seven months suggests that this mother is prone to having big children. Most of this extra weight is probably edema. If she is having miscarriages and big children the question presents itself in passing of whether or not the mother has diabetes, or is going to have diabetes. We also would like to know if there was any rH incompatibility that conceivably might account for some of these difficulties. These are all speculations. Now to the heart of the problem.

**Abscess** A cervical abscess was drained while the child was in the hospital after birth. We know nothing more about that, and it would be nice if we did. The problems in hospital wards with infection of the newborn frequently fall into two groups. One involves the beta hemolytic streptococcus, the other the hemolytic *staphylococcus aureus*. Barber<sup>1</sup> has written a great deal about the latter. The involvement is not infrequently with conjunctivitis and nasopharyngitis. The infant's response is not usually abscess localization. I am a little surprised that a child of that age was able to form an abscess. One would certainly like to know whether

or not there was *staphylococcus aureus* present. We learn later on that there was a blood culture with *staphylococcus aureus*, and the child developed pneumonitis. This abscess might be a very important finding. With a cervical abscess, there may have been staphylococci that were not completely removed and possibly served as a focus for further extension of infection.

There were no immunizations and the child was considered healthy.

**Pertussis** Now at about eight weeks prior to admission, the plot begins to thicken. The child is exposed to pertussis. She begins to breathe heavily and has excessive mucus in the throat. She is given nose drops and pertussis vaccine. It is difficult to evaluate the impact of the pertussis vaccine. I suspect that if she were breathing heavily and had excessive mucus the vaccine had at best little value. A theoretical point that just crossed my mind is that it might have made the situation worse by binding up any available antibody that the child had already been able to produce. In any event, the vaccine was not very beneficial.

The child continued to cough severely without definite whoops. The absence of whoops is of little diagnostic value. Classic whooping in infants under six months with pertussis is not common. One usually suspects a foreign body with whooping in this age group rather than pertussis. Thus, whooping cough is still an excellent possibility in this situation.

**Tenacious Mucus** On admission, we have an acutely ill child, said to show cyanosis. There is this thick tenacious white mucus mass which can be moved with difficulty. I would like to have a better description of that. I presume it represents material that had been

raised from the bronchi. On the other hand, it is conceivable that this represents monilia or that it might even represent another unusual infection. The fact that somebody tried to aspirate it suggests that it was not attached and probably then represents bronchial secretions.

**Dr. Sommers:** The record describes the mass in the pharynx as thick gelatinous white mucus. No membranous attachment is mentioned.

**Dr. Ehrenkranz:** Gelatinous mucus raises the ugly possibility that we are dealing with Klebsiella infection. It is conceivable then that what we are dealing with is a secondary infection, with the possibility either of Aerobacter or Klebsiella species.

The absence of hair over the occiput I don't think is very significant, but just represents the child having rubbed against the bed clothes.

**Test Negative** There is obviously some plugging of the bronchi. That the child retracts the chest with inspiration, the presence of the rales, coarse breath sounds, and the trouble in expiration suggests that there is difficulty in moving air in and out of lungs. This thick tenacious material which is present in the throat is also likely present in the lung and is producing a significant disability.

The tuberculin test being negative does not vitiate the diagnosis of tuberculosis in this situation; Zuelzer<sup>2</sup> has described a group of patients with miliary tuberculosis in the neonatal period who had negative tuberculin tests. On the other hand, there is no evidence of miliary dissemination or of tuberculosis in the meninges, so we will have to put that diagnosis low on our list. A twenty thousand per cubic mm. white cell count

is perfectly consistent with pertussis; however, the increased numbers of polymorphonuclear cells are strongly against uncomplicated pertussis. If the child has pertussis, it is very likely that she also has a secondary infection.

The significance of a single positive blood culture is difficult to weigh. It could be somebody's fingers provided the non-hemolytic staphylococci; on the other hand, the fact that the child has known sepsis elsewhere suggests it may have spread to the blood stream.

**Atelectasis** With the x-ray reports and the rest of the clinical picture, the possibility that I am inclined to favor is that the lung densities represent atelectasis behind mucous plugs. It is likely that these densities may represent small staphylococcal abscesses which become larger, with seeding of *staphylococcus aureus* into the blood stream, and further involvement of the lungs. This is not infrequently seen.

We might at this point diverge for a moment. We have a child who has tremendous tachycardia, is cyanotic, and who was born somewhat prematurely. The question of congenital heart diseases arises. If this situation exists, secondary infection again would be a very good possibility. Septicemia, multiple lung abscesses, brain abscesses, and acute endocarditis have all been described, particularly when there is a right to left shunt. Unfortunately, I am unable to make any such diagnosis in the absence of any more physical signs, and must conclude that the cyanosis was due to inadequate ventilation and not to congenital heart disease.

**Resistant Organism** The therapy was apparently to no avail. It is not too unreasonable, therefore, to assume that if the infection were picked up in

the hospital, the cervical abscess being the initial site, that the *Staphylococcus aureus* was a highly drug-resistant organism. The likelihood of its being susceptible to penicillin and streptomycin treatment would then be remote. We do not have any cultural evidence of *Haemophilus pertussis*. This does not really surprise me, since it is sometimes hard to grow these organisms, and the time elapsed since exposure is such that there is only about a 50% chance or less of getting the organisms to grow out.

The terminal enlargement of the liver suggests heart failure. It does not tell us, however, the etiology or the mechanism of the heart failure. Conceivably, if the child had a severe enough lung infection, resultant cor pulmonale would not necessarily imply an underlying heart disease. Having mentioned cor pulmonale, I have the thought of multiple pulmonary emboli. This is a situation with which I am totally unfamiliar in small children, if it exists. Nonetheless, it would explain much of what we have seen here, particularly if these were infected emboli. Where would they be coming from? I would have no idea. It seems to me difficult to envision thrombophlebitis as responsible in this instance.

**Lung Involvement** I will summarize the situation by wondering if the cervical abscess which was originally present did not represent a staphylococcus infection. The child did perhaps get pertussis, which was secondarily infected either from the cervical abscess or a staphylococcus from elsewhere. The course of events then was staphylococcal pneumonitis with multiple foci of lung involvement. Her response both in terms of the therapy she received and her own innate resistance was inade-

quate, with a resulting severe plugging of the bronchi, and death with right failure.

The question of whether or not she could have had mucoviscidosis is an intriguing one. In the absence of evidence of dysfunction of the pancreas by direct study, and sweat studies of the skin, I can't rule it out. It would fit the whole picture very nicely. I would like also to entertain this as a serious possibility. I should like to know if the stools were ever examined for absence of enzymes.

*Dr. Sommers:* Stool was described as sticky, but the case antedated any routine enzyme testing.

#### Lung Culture

*Dr. Meade:* The patient was probably admitted during the late 1940's because at that time we were using hyperimmune serum to treat patients who were too young to be able to protect their airway or too weak to get rid of secretions. Children under the age of one year often do not whoop and are unable to clear their lungs effectively of the viscous material.

The *H. influenzae* which was reported on culture from the lungs is probably of importance since it is often responsible for diffuse tracheobronchitis or bronchiolitis. The clinical signs of this type of disease are those of asthma because of difficulty moving air past narrowed bronchioles. I think it was for the asthmatic component of the infection that the child was given both the adrenalin and the ephedrine.

Atelectasis appearing in one or more lobes of the lungs, especially in children who have had whooping cough over a long time, seems to be due to several varieties of obstruction. One arises from retention of or aspiration of secre-

tions. The other is due to enlargement of hilar nodes and compression of bronchi. Pneumonia with atelectasis as the primary basis is a common problem in very young as well as older children.

**Obstructive Infection** In discussing this patient's cervical abscess, it is quite reasonable to assume that it was due to pyogenic infection, but one must remember the possibility that a cervical abscess may actually be due to tuberculosis. However, I tend to regard the whole course from the time she developed the cough as one of whooping cough in a young child who was, first, too young to get whooping cough safely, and secondly, who was a prematurely born child, and thirdly, who as a result of both retained secretions and secondary infection with *H. influenzae*, developed obstructive lung disease.

I think heart trouble developed here primarily on the basis of obstructing pulmonary infection.

One final statement about the treatment here. I am not sure exactly what year it was, so I don't know what drugs were available. If we assume it was during the late 1940's, it was just about this time that staphylococci were receiving belated attention for their recognized ability to become resistant to antibiotics.

In reference to Dr. Ehrenkranz's comments about staphylococcal pneumonia, I agree that this is a possible complicating disease in pertussis, but it is not so common an infection as the pneumonia due to *H. influenzae* or *pneumococci*. The problem of staphylococcal empyema is quite serious in children, and it may develop despite antibiotic treatment if this is not started in time.

My diagnosis is whooping cough complicated by pneumonia probably due to *H. influenzae*, and also *cor pulmonale*

secondary to pulmonary obstruction changes.

### Major Process

**Dr. Sommers:** The history is as complete as was available, and there does not seem to have been any history of exposure to tuberculosis. This is an old case, as Dr. Meade has suggested, from 1947. We are forced back that far partly because this is a rather unusual case at autopsy, in my experience.

The major process which caused death was indeed in the lung and, as described by both speakers, there was a very severe bronchitis and bronchiolitis, part of which had organized. There was, thus, a bronchiolitis fibrosa obliterans type of reaction, with peribronchitis, peribronchiolitis and abscesses. Every bronchus and bronchiole was plugged with some form of exudate, and their lumens were replaced partly by fibrous tissue.

**Abundant Mucus** There was also abundant very sticky eosinophilic mucus in the larger bronchi, absent from the bronchioles. In the pathology of pertussis, described by F. B. Mallory<sup>3</sup> over 40 years ago, the bacteria are clustered on the cilia of the respiratory tract. This is a characteristic localization, but I was not able to find any evidence of it. The disease had now gone so long that it was clinically referred to as post-pertussis, and I have no way of ruling it out or in. It would be a matter of clinical opinion in the absence of any bacteriological proof.

What was surprising was the amount and the apparent solidity of the mucus in the larger bronchi. It was as if mucus plugs in medium and larger sized bronchi had caused stasis behind which the stagnant secretion became infected with the organisms found, including staphylococci, streptococci, and *H. in-*

*fluenzae*. These then grew out as peribronchitis, with many little lung abscesses. No gross lung abscesses were found. These abscesses then organized. The infection of itself was not of a particularly lethal type, as judged by the pathology. The major difficulty that this child had, about which something might have been done, was obstruction of the larger bronchi by the unusually sticky mucus material.

**Pancreas Altered** The other major finding was in the pancreas, which was markedly altered microscopically. There was really no normal part found. The large ducts were usually cystically dilated and filled by a laminated inspissated eosinophilic secretion which irregularly distended the smaller ducts, the terminal ducts and acini. The pancreatic acinar tissue was rather atrophic. There was no particular inflammation. This is the typical pathology of cystic fibrosis of the pancreas, as a major part of so-called muco-viscidosis.<sup>4</sup> Obstructed mucous secretion interfered severely with the function of both lung and pancreas. The lung complications eventually proved fatal. The final episode seems to have been heart failure, since the right side of the heart was strikingly dilated, and the diagnosis was made of acute cor pulmonale.

Dr. Meade, what is the present day therapy of this disease?

**Dr. Meade:** The emphasis on treatment for these patients is to protect them against pulmonary infection, which is generally the cause of death. Ordinarily, such children are now given some broad spectrum antibiotic, generally not in too great a dose, but in large enough dose to suppress the development of pulmonary infection. Many have done quite well. They are

also given pancreatic enzymes as well as special diets.

This child is one in whom some attempt to dissolve or remove secretions obviously had to be made. I don't know if they used a croup tent. Certainly oxygen alone would have been a very poor thing to use, because it would further dry the secretions. Aerosolized oxygen is a very useful adjunct to treatment. I think, in general, any child who has tracheobronchitis, regardless of its etiology, should be treated with steam

or other water vapors. More recently, trypsin has been recommended. In my limited experience with it, no appreciable change occurred. Alevaire has also been used with equivocal results. Removal of secretion from this child's lungs may well have been of exceeding importance. The double impact of pertussis and influenza bronchitis, however, were in themselves sufficiently severe to have been responsible for death in a child of weakened condition and extreme youth.

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### Clini-Clipping

	NEGATIVE	DOUBTFUL	POSITIVE
CONTROL			
TEST			

Reading of Eagle Complement-Fixation Test

## External Hemorrhoids

Hemorrhoids are dilated veins of the hemorrhoidal plexuses which project into the lumen of the anal canal and may protrude from the anus. They are termed "internal" when they are above the pectinate line (ano-rectal line), "external" when they are distal to the pectinate line, and "combined" when they extend throughout the length of the anal canal.

There are normally two venous plexuses, one in the anal canal and one at the anal orifice. They lie in the subcutaneous and submucosal tissue, and are therefore loosely supported. The upper plexus, situated above the pectinate line and covered by mucous membrane, consists of branches of the superior and middle hemorrhoidal veins (Figure 1). The lower plexus, distal to the pectinate line, and covered with modified skin, is composed of branches of the inferior hemorrhoidal veins.

The veins of the hemorrhoidal plexuses become distended from local obstruction and from increased intra-abdominal pressure. If the distention is oft-repeated or long-standing, the vein walls and overlying skin or mucosa remain stretched and "hemorrhoids" result. Distention may be caused by straining at stool or with physical exertion (e.g., lifting), pregnancy and delivery (with resultant venous stasis), carcinomatous infiltration of the pelvic rectum (with venous obstruction), or

relaxation of the external anal sphincter (resulting in sagging and possibly eversion of the lining of the anal canal). Portal hypertension (as in cirrhosis of the liver) is an occasional cause of hemorrhoids.

**External Hemorrhoids** Dilatation of the external hemorrhoidal plexus is accompanied by hypertrophy of the overlying skin at the anal orifice. With straining, the distended veins project from the anus as rounded soft purple masses. When the straining is stopped, the distention of the veins disappears, but the hypertrophied skin may project as tags.

Symptoms of external hemorrhoids are: a) a mass projecting from the anus with straining at stool and with exertion, b) occasional itching due to the skin hypertrophy, c) occasional bleeding following trauma, and d) pain, usually due to thrombosis.

Thrombosis of external hemorrhoids, due to local trauma and stasis, with or without infection, is recognized as a firm, painful, purple mass or masses projecting from the anus (Figure 2). The degree of pain is dependent upon the severity of the accompanying inflammation. Pain is severe with sitting and with bowel movements. Usually one or two small venous radicals become thrombosed. If no treatment is given, organization eventually takes place, and the hemorrhoidal mass remains as a tab

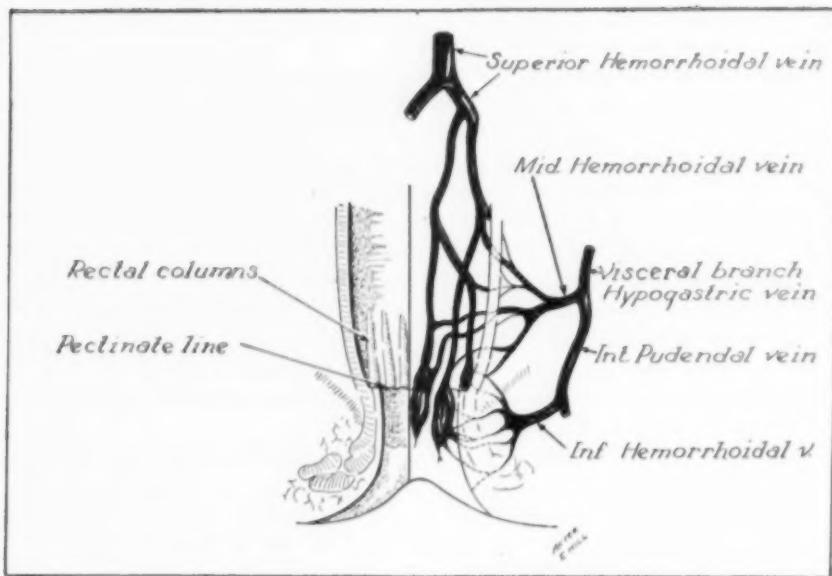


Fig. 1. The hemorrhoidal veins.

of skin overlying an area of fibrosis.

A larger thrombosed vein may progress to an ulceration of the skin, with resultant oozing of dark blood (Figure 3). The clot may be extruded through the ulcer, in which case the wound heals by granulation. Occasionally the inflammatory symptoms are much more marked; the overlying tissue becomes very edematous, and pain is severe.

Treatment of external hemorrhoids is often not necessary unless symptoms (itching, etc.) are severe, or complications develop. Excision is then the treatment of choice, and is usually best carried out in the hospital. However, small external hemorrhoids may be excised under local anesthetics in the office by means of radial elliptical incisions. The base of each hemorrhoid is ligated with fine catgut, but the wounds are left open, and heal within a few days. Sitz

baths three times a day and mineral oil nightly are of help during the healing period.

Thrombosed external hemorrhoids require treatment because of the pain which the patient experiences. Since the pain is largely due to tension in the area of thrombosis, it can be relieved by incision and evacuation of the clot. The patient is placed in the prone jack-knife position, or on his side in Sims' position, and after the perianal area is shaved, cleansed, and draped, the skin and subcutaneous tissue over and around each thrombosed vein are infiltrated with 1% procaine (Figure 4). A radial elliptical incision is made through the skin over each thrombosed vein (Figure 5), and the vein is excised along with the skin (Figure 6). The wound edges are lifted up and adjacent small thrombosed veins are dissected out bluntly



Fig. 2. Thrombosed external hemorrhoid.



Fig. 3. Ulcerated thrombosed external hemorrhoid.



Fig. 4. Infiltration of thrombosed external hemorrhoid with procaine.

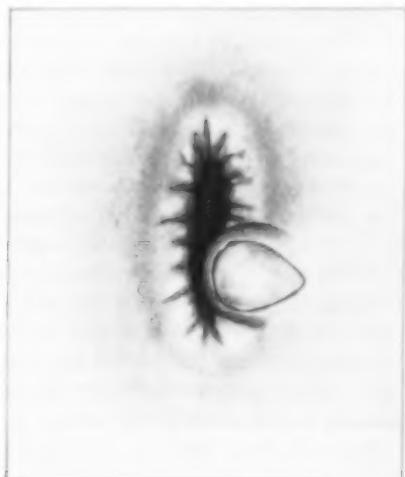


Fig. 5. Radial elliptical incision.

and removed. Bleeding is usually minimal but if a persistent bleeder is encountered, it is ligated with fine catgut. (If the thrombus is evacuated and the vein and overlying skin are not removed,

the wound edges fall together and bleed, and a new clot may form under them.)

The wounds are left open. A wick of vaseline gauze is inserted into the anus, and a T-binder is applied (Figure



Fig. 6. Removal of thrombosed external hemorrhoid.



Fig. 7. Vaseline gauze wick in anus.

7). The patient is allowed to go home, and is given codeine to take with him for relief of the pain that recurs, when the anesthesia "wears off." In twenty-four hours the gauze pack is removed in the office and the patient is started on sitz baths (sitting in a tub of warm water) three times a day, and is given mineral oil (30 cc. nightly) and a low residue diet for a week, at the end of which time the wound is usually healed. Bowel movements are painful for a few days after operation, and the patient should be instructed to take a sitz bath after each stool, both for comfort and cleansing.

If there is marked edema, the patient should be treated with sitz baths and sedation until it subsides. Then excision can be carried out as outlined above. If the edema does not subside within two or three days, the patient should be hospitalized and the entire mass excised under local or spinal anesthesia.

Internal hemorrhoids occasionally

thrombose and prolapse through the anal orifice. As a rule they are softer than the firm thrombosed external hemorrhoids that usually accompany them. They are best not incised or excised while thrombosed, and should be pushed back up into the anal canal. The acute symptoms subside after a few days of rest, liquid diet, sitz baths, and mineral oil, and the patient can then be prepared for elective hemorrhoidectomy.

Since hemorrhoids may be only the signal of a more serious lesion, thorough investigation should be carried out as soon as the wounds of treatment of the acute process have healed. A careful history and physical are essential, as is a sigmoidoscopy, and in a patient with symptoms or physical findings that are not explained by a minor local lesion, a barium enema is advisable. Failure to carry out this "work-up" may result in failure to detect a carcinoma until too late for successful treatment.

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## EDITORIALS

### Carl Linné

This year marks the 250th anniversary of the birth of Carolus Linnaeus, the great Swedish physician who systematized for medicine its botanical terminology. He elucidated the sexual systems of plants and animals in exhaustive fashion, and he surveyed and classified the entire world of nature.

Trained chiefly in the Dutch universities, Linnaeus brought order into biology through his classifying and systematizing. His great works were the *Species Plantarum*, the *Systema Naturae*, the *materia medica* and his scheme of nosology, the *genera Morborum*. It was he who classified man himself as *Homo sapiens*.

### Medical Folk-Lore

Malign or benign power, in folklore, was ascribed to the saints; thus we have the medical lore of holy men, their special days, holy wells, etc., which were blessed by them. The saints could inflict as well as heal diseases.

The saints chiefly associated with medicine have been Saint Vitus (chorea); Saint Blaise (throat affections); Saint Valentine (epilepsy); Saint Hubert (hydrophobia); Saint Benedict, Saint Martial, Saint Genevieve (ergotism).

In the West of Ireland an infallible remedy for erysipelas or toothache was believed to reside in the blood of the Walshes, Keoghs and Cahills (Black: Folk-Lore, London, 1883, page 140; Garrison, 1929, page 38).

Faith is still a basic factor in the psychology of therapy, as Osler understood so well and always invoked, or at least never discounted.

### "Research" in Shock Therapy

When medical service in industry was in its infancy, and somebody like a chief chemist was in charge of bandages, stomach pills, quinine, epsom salts, iodine, toothache drops, splints, and a hypodermic needle for morphine, perhaps the most essential item of all was a bottle of brandy, labeled "for use in

case of shock," but it was always noted that the brandy disappeared more rapidly than the shock cases warranted; the attempt to deal with this problem by adding phenolphthalein to the bottle only added confusion to the aforesaid chief chemist's "research" zeal, because of the "side effects."

### Occupational Medicine

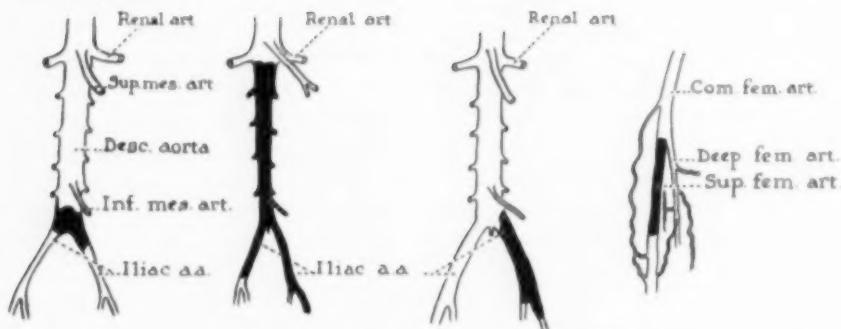
Emile F. Du Pont, director of the Du Pont Company's Employee Relations Department, points out that "our march toward greater security seems to be accompanied by a higher incidence of heart attacks and ulcers." We must lessen tension, he says, and eliminate its effect on our health. The lessening of tension depends upon the achievement of better understanding among those whose cooperation is essential for the common good; "human emotions and morale in a complex world are

vital considerations in any program."

A great responsibility thus devolves upon the industrial physician; he is the key man in this set-up; his specialty relates to plant hospital facilities, and the development of the philosophy that the alcoholic in industry should be viewed and treated as a sick man "rather than fired as a human derelict"; psychiatry, mental hygiene and preventive medicine loom large in this field. Regular health examinations are a central consideration in the industrial scheme. The medical program is a very broad one.

In the case of the Du Pont Company its Haskell Laboratory for Toxicology and Industrial Medicine, constituting a special unit of the Medical Division, conducts a program to insure that chemicals will be safe for employees to manufacture and for the public to use.

### Clini-Clipping



Common sites of thrombotic large vessel occlusion.

## PEDIATRICS

JOHN T. BARRETT, M.D.\*

**Chronic Ulcerative Colitis  
in Children**

Jean Holowach and D. L. Thurston (*Journal of Pediatrics*, 48:279, March, 1956) report that there have been eighteen cases of chronic ulcerative colitis in children in 68,832 admissions to St. Louis Children's Hospital, an incidence of 0.026 per cent. Twelve of the eighteen patients were girls. The age of onset of symptoms ranged from eighteen months to fourteen and a half years; in thirteen of the eighteen cases the age at onset was less than seven and a half years, and in seven of these less than three and a half years. The symptoms are the same as in adults with chronic ulcerative colitis, but tend to be more severe. In three of cases reported, melena without diarrhea was the first symptom of the disease. There were three deaths among the eighteen patients, one death was due to perforation of the colon, one to intestinal obstruction three years after ileorectosigmoidostomy and colectomy, and one was due to carcinoma of the colon. In sixteen of the eighteen patients, adequate measurements of body physique and development on the Wetzel Grid were available on admission to the hospital; compared to 67 per cent standard for age, nine of

the sixteen patients showed retarded physical development, and seven of these nine showed more than two and a half years' retardation. There was also delayed sexual development in these cases. Two of the eighteen patients had carcinoma of the colon, including the one dying of carcinoma, noted above, and another patient in whom colectomy was done. Five of the eighteen patients had polypoid masses in the colon; in two cases these masses were found at autopsy, in two cases they were demonstrated by X-ray examinations, and in one at operation. Extracolonic complications were observed in fifteen of the eighteen patients, including arthritis in five cases. A follow-up study has been made in thirteen of the eighteen patients in this series; this includes the three fatal cases. In four cases the disease



Barrett

\* Active Staff, R. I. Hospital, Providence Lying-In Hospital; C. V. Chapin Hospital, Pawtucket Memorial Hospital; Consulting Staff, Westerly Hospital.

was "modified" by surgery, in four it is clinically inactive, and in two cases is chronically active. The authors consider that surgery is "mandatory" in chronic ulcerative colitis in children in cases with acute toxic symptoms and in cases with threatening sequelae, especially malignant degeneration. Colectomy rather than ileostomy alone should be done, for although this method treatment is "drastic," it is "the lesser of two evils."

#### COMMENT

There are all gradations of severity in this disease and the less severe cases can be handled medically quite adequately. Many authorities reserve ileostomy for the very toxic and severe cases—and many surgeons feel that a colectomy should not be used in childhood. It could appear that if there is persistence of toxicity, infection, fever and bloody diarrhea after an ileostomy, a colectomy should be done early rather than late. The "threatening sequelae" mentioned in this report certainly suggest that one can be too conservative. Certainly if there is any indication of activity of the colitis after puberty, colectomy should be performed.

J.T.B.

#### Antibiotics and Chemotherapeutic Agents in the Treatment of Uncomplicated Respiratory Infections in Children

L. M. Hardy and H. S. Traisman (*Journal of Pediatrics*, 48:146, Feb. 1956) report a study of 529 children with uncomplicated respiratory infection, 217 of whom were treated in an out-patient clinic, the remainder either in a children's hospital or in private practice. In every case the temperature was 101°F or higher for at least twelve hours before treatment was instituted. Physical findings were negative except for a nasopharyngitis. Of the entire series of 529 children, treatment in 267 cases was limited to aspirin and supportive treatment; 84 were given Gantrisin and penicillin, 107 were given penicillin,

either by mouth or intramuscular injection, and 71 were given one broad-spectrum antibiotic or a combination of such antibiotics, chiefly Aureomycin alone or in combination. In children whose initial white blood cell count was below 10,000, chemotherapeutic or antibiotic treatment did not reduce the incidence of complications; this may be attributed to the reduction of bacterial complications by these agents, which did not reduce or possibly enhanced the possibility of viral infections. In children with an initial white blood cell count of over 10,000 the chemotherapeutic or antibiotic therapy, however, reduced the incidence of complications. These findings indicate that the universal immediate use of chemotherapeutic and/or antibiotic therapy in children with fever and negative physical findings is not indicated, especially if the white blood cell count is below 10,000. If it is impossible to obtain the initial white blood cell count, it is more effective to use specific chemotherapeutic or antibiotic agents in the treatment of complications "at their inception," rather than in uncomplicated respiratory infections in children.

#### COMMENT

Practically, of course, it is impossible to get white blood counts on your patients in every febrile disease so that this criterion is an unrealistic one. It is poor therapy to treat all fevers with antibiotics or chemotherapy and I suppose one's judgment and one's own philosophy guide one in the individual cases. It might be interesting to point out that one of my colleagues treats almost all febrile illnesses with a drug. He points out that the incidence of meningitis, rheumatic fever, glomerulonephritis, osteomyelitis, pneumonia and the like are practically non-existent in his rather extensive practice. I feel that by treating everybody with everything, we are probably lessening complications, possibly shortening the acute phase but undoubtedly contributing in the future to a decreased resistance to such diseases.

J.T.B.

MEDICAL TIMES

## Acute Hematogenous Osteomyelitis

Morris Green and associates (*Pediatrics*, 17:368, March 1956) report ninety-nine cases of acute hematogenous osteomyelitis in children under fifteen years of age admitted to the Grace New Haven Community Hospital in a thirty-one year period from 1924 through 1954. Forty-seven of these children were less than five years of age. Fever was a symptom in ninety-one patients before admission, and was present on admission in eighty-four. Only three patients were completely afebrile throughout the course of the disease. Pain or tenderness was found in eighty patients at the time of admission; localized tenderness is one of the most important early clinical findings in acute osteomyelitis. Limitation of joint motion was noted in fifty-three cases; and swelling was noted in eighty-four cases at the time of admission. Roentgenographic study is of importance in acute osteomyelitis, but a positive diagnosis cannot always be made by this method early in the course of the disease; there were roentgenographic signs of osteomyelitis in eighty-nine of the cases in this series, but the average interval for the development of these signs after onset of symptoms was ten days. The femur, the tibia and the humerus were the bones most frequently involved; the bony pelvis was involved more frequently than in other series of cases reported. The bacteria causing the infection were determined in 87 per cent of the patients; in 63 per cent the causative organism was a *Staphylococcus*; a beta-hemolytic *Streptococcus* was isolated in eighteen patients. Antibiotics are used in the treatment of acute osteomyelitis; penicillin is indicated in

streptococcal infections. In staphylococcal infections, a combination of antibiotics is employed. Treatment should be continued for at least three weeks after the onset of symptoms; and may be discontinued then if roentgenograms are normal and symptoms have been absent for at least a week.

### COMMENT

Two or three points should be reiterated regarding osteomyelitis in children. Fever, tenderness, swelling and splinting of the part should suggest the diagnosis. X-ray evidence of the disease lags behind the symptoms and may become positive up to two or three weeks after the initial symptom. Antibiotic therapy is a "must".

J.T.B.

## The Incidence of Milk Allergy in Pediatric Practice

C. Collin-Williams (*Journal of Pediatrics*, 48:39, Jan. 1956) reports a study of the incidence of milk allergy in 3,000 children up to fifteen years of age seen in his private pediatric practice, excluding those with a known major allergy, those referred by other physicians as possibly allergic, and those brought to the office by mothers who considered the child to be allergic. In this group of 3,000 children, there were nine in which a diagnosis of milk allergy was definitely made, an incidence of 0.3 per cent. In all of these cases, the child was ill with symptoms such as vomiting and diarrhea, and the correct diagnosis resulted in establishing the fact that the child was not seriously ill but "relatively well;" in two of the cases, the diagnosis saved the patient's life. While this incidence of milk allergy is relatively low, yet it is sufficient to indicate that pediatricians should consider the possibility of milk allergy as a cause of a wide variety of symptom complexes, both gastrointestinal and others.

#### COMMENT

It might be interesting to point out the variety of symptoms one might encounter in milk allergies: eczema, "colic", diarrhea, croup, constipation, asthma, anorexia, urticaria, sneezing, "chest cold", pylorospasm, "unhappy baby" —and possibly others!

J.T.B.

#### The Treatment of Hyperthyroidism in Children with Thiouracil Drugs

J. J. Van Wyk and associates (*Pediatrics*, 17:221, Feb. 1956) report sixteen cases of hyperthyroidism in children with thiouracil drugs; in all these cases the disease began before the age of thirteen. In the earliest cases thiouracil was used, but propylthiouracil was used in most cases. In all cases the thyroid was diffusely enlarged, the pulse was rapid and bounding with wide pulse pressure; all showed definite eye signs with definite proptosis in some cases. In the cases studied in recent years, the diagnosis of hyperthyroidism was confirmed by radioactive iodine-uptake studies and in the most recent cases with serum protein-bound iodine measurements. Twelve of the sixteen patients were females; in six cases there was a history of hyperthyroidism in the family, and in two of these cases hyperthyroidism had occurred in three successive generations. The initial dose of propylthiouracil was 300 mg. daily and patients were kept on bed rest in the hospital until definite improvement was noted, usually about three weeks. Following this period the "thyroid status" was assessed clinically and the dosage was regulated as indicated; after the period of hospitalization, the children attended school and led normal lives while treatment was continued. Eight patients have maintained remission after

treatment was stopped, seven of these for periods of from twenty-three months to six years and ten months; one patient was entirely off treatment for only four months, but has been well for three and a half years while taking only 50 mg. propylthiouracil daily on the insistence of the referring physician, although the discontinuance of the drug had been recommended. Six of these patients have passed through adolescence and one is "well into puberty," without showing any recurrence of symptoms. In four cases thyroidectomy was done, either because of symptoms of toxicity of propylthiouracil, or because the patient was uncooperative or could not be followed up closely. Four patients are still continuing treatment at the time of this report. The best prognostic sign is reduction in the size of the thyroid gland during treatment. In patients whose goiters remained large during treatment, thyroid extract was combined with the antithyroid drug; in these cases this resulted in involution of the gland, but the authors are of the opinion that "the ultimate value of this combined treatment remains to be determined." In patients responding well to antithyroid drugs, the minimal period of continuous treatment should be two years.

#### COMMENT

Apparently medical treatment of hyperthyroidism with these drugs is the treatment of choice especially in the prepubertal child who so often does well after two or three years on the drug. Surgery should be reserved for the individual who does not react well to these drugs or for those who have been on them for a protracted period of time. Results of treatment with propylthiouracil can be dramatic. We prefer protein-bound iodine tests to the radioactive iodine uptake for diagnosis and follow-up.

J.T.B.



## Medical Book News

Edited by Robert W. Hillman, M.D.

### Office Practice—Technics

**Office Procedures.** By Paul Williamson, M.D. Philadelphia, W. B. Saunders Company, [c. 1955]. 4to. 412 pages, illustrated. Cloth, \$12.50.

It is a pleasure to read this book which is a mine of most useful information. It was written especially for those just starting out in practice but it should be of benefit to any general practitioner to learn or review the author's "tricks of the trade." It is an ideal gift for medical students and recent graduates.

PAUL I. KEARNEY

### Vitaminology

**Vitamins in Theory & Practice.** By Leslie J. Harris, D.Sc. 4th Edition. Cambridge, [England]. At the University Press, [1955]. 8vo. 366 pages, 103 illustrations, 107 tables. Cloth, \$6.50.

In this edition L. J. Harris has written a convenient book for the doctor and nutritionist.

He covers each vitamin from its early detection to its synthesis and clinical application. He discusses the symptoms of each deficiency and wherever avail-

able, provides the tests for its assessed valuation and formula. Finally the clinical application of the uses of these vitamins are discussed.

The author explains the physiological actions of the vitamins and their therapeutic indications. The book is written in a very interesting manner, and will be a valuable addition for the doctor's library.

MORRIS ANT

### Science for Students

**The Science Book of the Human Body.** By Edith E. Sproul, M.D. Illustrated by Kathleen Elgin. New York, Franklin Watts, [c. 1955]. 8vo. 232 pages, illustrated. Cloth, \$4.95.

The study of the human body has been a fascinating one from the dawn of earliest history. Few of the savants of the distant past could have had the knowledge which the author of this excellent book presents largely for the nonprofessional reader. In the text, anatomy and physiology are combined in a very comprehensive manner. Only a few years ago some of the passages of the book would probably have been

**Important:**

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**CHARLES C. THOMAS • PUBLISHER**  
Springfield, Illinois

considered to be objectionable for young readers. But times have changed, and the book can now be fully recommended for the edification of all age groups. The illustrations are clear and numerous, and greatly enhance the value of the text.

JEROME WEISS

## For the Hypertensive Patient

**Your Blood Pressure and How to Live With It.** By William A. Brams, M.D. Illustrations by Hertha Furth. Philadelphia, J. B. Lippincott Company, [c. The Author, 1956], 8vo. 160 pages, illustrated. Cloth, \$2.95.

As one might guess from the title, this volume is written for the layman. It is a very readable little volume with an engaging style and the tendency is to read it from cover to cover at one sitting.

It presents a rather optimistic picture of the disease complex called hypertension. The importance of the many emotional and physical factors which influence the course and prognosis of the disease are thoroughly discussed and well illustrated by case histories. There are brief sections on nephritis, coarctation of the aorta and pheochromocytoma written for easy comprehension by the layman. Almost completely absent is a discussion of modern medical management with the hypotensive agents, a subject of interest and importance. The appendices include weight charts, reducing diets, and rehabilitation agencies.

It is a worthwhile little book and should make the patient with hypertension understand his illness and co-operate more intelligently with his physician.

MORRIS ZUCKERBROD

MEDICAL TIMES

## Tolbutamide Oral Insulin Substitute

An authoritative round-up gathered from original research data, some of which has not yet been made otherwise available to the profession.

Tolbutamide\* is a sulfonyl urea derivative first synthesized by chemists of the Farbwerke Hoechst in Germany, and which, when given orally, is a hypoglycemic agent.

During the last two years it has been tested in approximately 18,000 diabetic subjects.

There are certain fundamental observations about tolbutamide which must be remembered by all physicians:

It is a synthetic chemical compound, not a hormonal product.

It is different from any of the endocrine substances which we now know affect carbohydrate metabolism.

It is not effective if the Beta cells of the pancreas are absent.

As with insulin, both the doctor and the patient must understand that continuing medical supervision is needed when tolbutamide is being administered, and that this therapeutic agent does not do away with the necessity for observing proper dietary regimes.

Tolbutamide is not suitable for the treatment of every diabetic, nor for every stage of diabetes. According to

current indications, *tolbutamide may be used in adult, mild diabetics, whose disease developed after the third decade of life, and could not be controlled by diet alone, and in whom the daily requirement for insulin is moderate*. Currently, it is the opinion of experts that tolbutamide should *not be used*:

In patients who have the juvenile type diabetes.

In adults who suffer from diabetes of the unstable type.

When ketosis, acidosis, or diabetic coma is present.

When trauma or infection is present.  
During major surgical procedures.

When liver damage is evident.  
In patients who are highly allergic.

The mode of action of the drug is still not clear. Some investigators believe that its effect in lowering blood sugar is the result of stimulation of the Beta cells of the pancreas, with the production of insulin. Evidence to date on whether truly anabolic effects are obtained in patients receiving tolbutamide appears to be controversial. The agent has certain side effects. In a study of almost six thousand patients, slightly over three percent had some type of

\* Orinase, The Upjohn Co., Kalamazoo, Mich.  
(Vol. 85, No. 6) June 1957

mild reaction, about a third of those reacting suffered from urticarial, diffuse, or morbilliform skin rashes, and about a third had digestive upsets. Eleven patients developed leukopenia, some with counts as low as 1300 white blood cells, and with an absolute decrease in the polymorphonuclear leukocytes. Other observers have noted early abnormal alterations in the alkaline phosphatase tests in as high a thirty percent of patients receiving tolbutamide. However, the phosphatase values returned to normal, even though therapy with tolbutamide was continued, thus making it difficult to evaluate this abnormal finding. Although the drug has a chemical structure somewhat like that of the sulfonamides, there have been no reports of renal or urinary tract side effects. Cross sensitivity with sulfonamides has not been described.

Some experts in the treatment of diabetes believe that a screening test may be of value in selecting patients who will respond properly to therapy with tolbutamide. One test of this type consists of giving the patient a single dose of 3.0 grams of the drug, after blood for an initial blood sugar determination has been taken. Then another blood sugar is done four hours after the tolbutamide has been administered. If at this time the blood sugar level has not fallen by more than twenty percent, it is believed that the patient will not respond too well to treatment with tolbutamide. However, it must be understood that other experts do not feel that screening tests are reliable. *Also, it must always be remembered that if a patient who has been started on tolbutamide — develops ketonuria, the drug must be discontinued, and insulin therapy re-established immediately.*

In the physician's contemplation of the treatment of patients with tolbutamide he must bear in mind, *that if a patient is currently being treated with insulin, an abrupt shift to tolbutamide should never be made.* The insulin dosage should be tapered off gradually. Furthermore, in light of current knowledge, the dictum that tolbutamide either replaces insulin entirely, or there is no use for it, is considered to be realistic. In other words, one should not use combined therapy, except when shifting from insulin to tolbutamide. All patients receiving the drug should be fully instructed and propagandized relative to the importance of dietary regulation, and relative to the proper use of insulin, because insulin is indispensable for the control of complications. *With any complication, such as a major surgical procedure, trauma, infection, ketosis, acidosis, etc., an immediate resumption of insulin therapy is absolutely necessary in patients receiving tolbutamide.* Careful, standard laboratory control procedures such as blood and urine sugar determinations are indicated during the therapy.

Physicians should also remember that a special technique must be employed for the determination of albumin in the urine of patients who are receiving this compound.

The currently recommended dosage schedule for starting a patient on tolbutamide therapy is as follows:

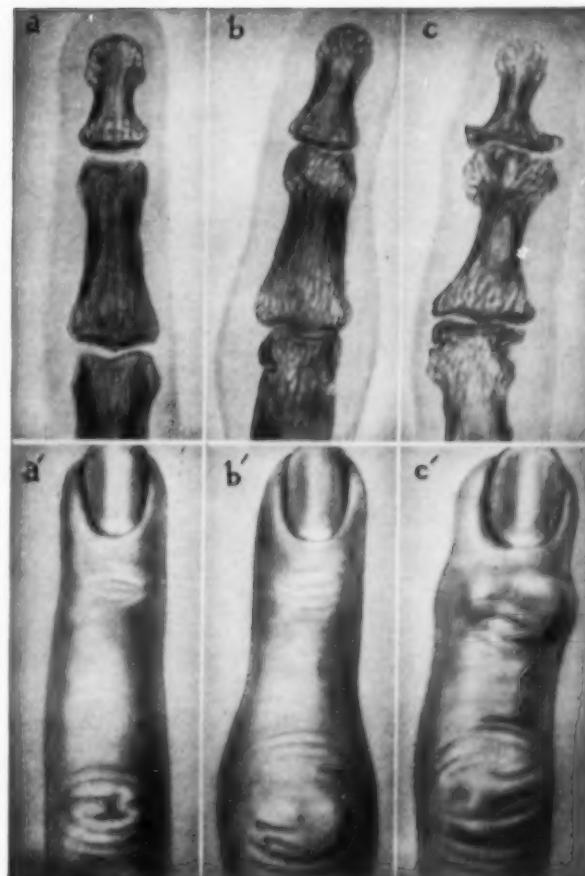
1. A single dose of 3 grams or one gram 3 times a day before meals for two or three days.
2. A single dose of two grams or  $1\frac{1}{2}$  a gram four times a day for two or three days.
3. Then, one gram, or more or less, per day, the amount being determined

by the patient's response. *The maintenance dose should never exceed two grams a day.* In studies to date, eighty-

five percent of the patients have been stabilized on a maintenance dose of 1.5 grams or less.

### Clini-Clipping

Comparative views of middle fingers, showing:  
a. normal x-ray; a'. normal exterior;  
b. x-ray of rheumatoid arthritis illustrating narrowing of joint space; b'. exterior of fusiform swelling at proximal interphalangeal joint;  
c. x-ray of hypertrophic arthritis illustrating Heberden's nodes at terminal phalangeal joints, also loss of cartilage in terminal phalangeal joints; c'. exterior of Heberden's nodes.





Teamwork and concentration are apparent in this candid photo of Mass Memorial doctors in the operating room.

## Massachusetts Memorial Hospitals

**"Mass Memorial," with its five memorial units, is now in its 102nd year of operation. A next-door neighbor and hospital partner of the Boston University School of Medicine, this institution offers a unique Home Medical Service, an In-Patient Psychiatric Service, and a Rehabilitation and Physical Medicine Service.**

Between the Skid Row of the ramshackle South End and a crooked inland finger of Boston Harbor squat the main buildings of Massachusetts Memorial Hospitals, one of the busiest—and closest quartered—cells in Boston's medical beehive.

So heterogeneous are the activities and interests of this 101-year-old institution that they have overflowed into the adjoining tenement blocks (pathology, accounting and animal house are in converted walk-ups), down onto plush Commonwealth Avenue (where the Medical Associates, a group of practicing staff members, have their offices) and out to the other side of the city (industrial rehabilitation and infectious diseases at the Haynes Memorial—"a hospital within a hospital").

But the most famous of the hospital's many facets are three: its traditional partnership with the next-door Boston University School of Medicine; its independently endowed Evans Memorial Department of Clinical Research and

Preventive Medicine; and its world prototype Home Medical Service.

**Homeopathic** The hospital was founded in 1855 as the Massachusetts Homeopathic Hospital and soon became one of the country's leading rebels against the purging and drug mania of the day—so much so, in fact, that a group of its founding physicians was expelled from the Massachusetts Medical Society twenty years later.

Seven years earlier, in 1848, the Boston Female Medical College initiated the pioneer program of medical education for women in the United States—teaching homeopathy incidentally—and in 1873 was taken under the wing of Boston University as its School of Medicine.

In 1929 the present name of the hospital was adopted to make it more apparent that it is a complex of five memorial units—the Evans, the Robinson, the Collamore, the Talbot and the Haynes.



This view of the main building of Massachusetts Memorial Hospitals shows the Evans (left), Collamore (center) and Robinson memorials.

**Faculty Ties** The ties linking the hospital and the School of Medicine have persisted and strengthened with the passage of time. The title of Chief of Service carries with it a professorship at the School of Medicine, and most hospital staff members are on the faculty. A recent step toward the formalization of this relationship was the appointment of Dr. Chester S. Keefer, who is Physician-in-Chief at the hospital and Director of the Evans, as Director of the School of Medicine. Dr. Keefer is also Wade Professor of Medicine.

"Mass Memorial" is a voluntary non-profit hospital with 316 beds and 24 bassinets, admitting about 8,000 patients annually, handling more than 40,000 visits to the Out-patient Department, providing instruction for some

700 students in various capacities and spending in excess of \$400,000 on research activities.

**Research** Medical research under the sponsorship of the Evans and surgical research under the Smithwick Foundation have concentrated in such fields as cardiovascular disease, cancer, hematology, gastroenterology, clinical immunology, infectious diseases, metabolism, dermatology, endocrinology and radiology.

The Home Medical Service provides medical care at home for indigent non-ambulatory patients in a designated area of the South End housing some 55,000 persons, ten percent of whom are seen annually.

**Special Services** Two special services have been recently inaugurated at Mass Memorial. The In-patient Psychi-

Dr. Robert W. Wilkins, Associate Physician-in-Chief and Professor of Medicine, Boston University School of Medicine, lectures on his specialty, cardiovascular diseases, in the amphitheatre of the Evans Memorial. Dr. Wilkins is President-elect of the American Heart Association.



atric Service, with 17 beds in the main building, provides on-the-spot treatment primarily of psychosomatic and psycho-neurotic problems, as well as the early stages of the more serious but temporary mental disturbances that develop in the course of treatment of somatic illness in a general hospital.

A Rehabilitation and Physical Medicine Service, operating under a grant from the U. S. Office of Vocational Rehabilitation, is open to ambulatory patients, industrial cases and in-patients of all types for physical and occupational therapy, speech therapy, vocational guidance and psychometric testing. The Industrial Rehabilitation Department at the Haynes Memorial provides long-term care and treatment of paraplegics

with the cooperation of the Liberty Mutual Life Insurance Company.

**Activities** Specific activities attended by staff doctors include regularly scheduled grand rounds, C.P.C.s, journal clubs, x-ray and pathological conferences, ward rounds, chart rounds, seminars, departmental conferences, "death conferences," subspecialty rounds in medicine, vascular rounds, tumor clinic meetings, staff conferences and postoperative clinics.

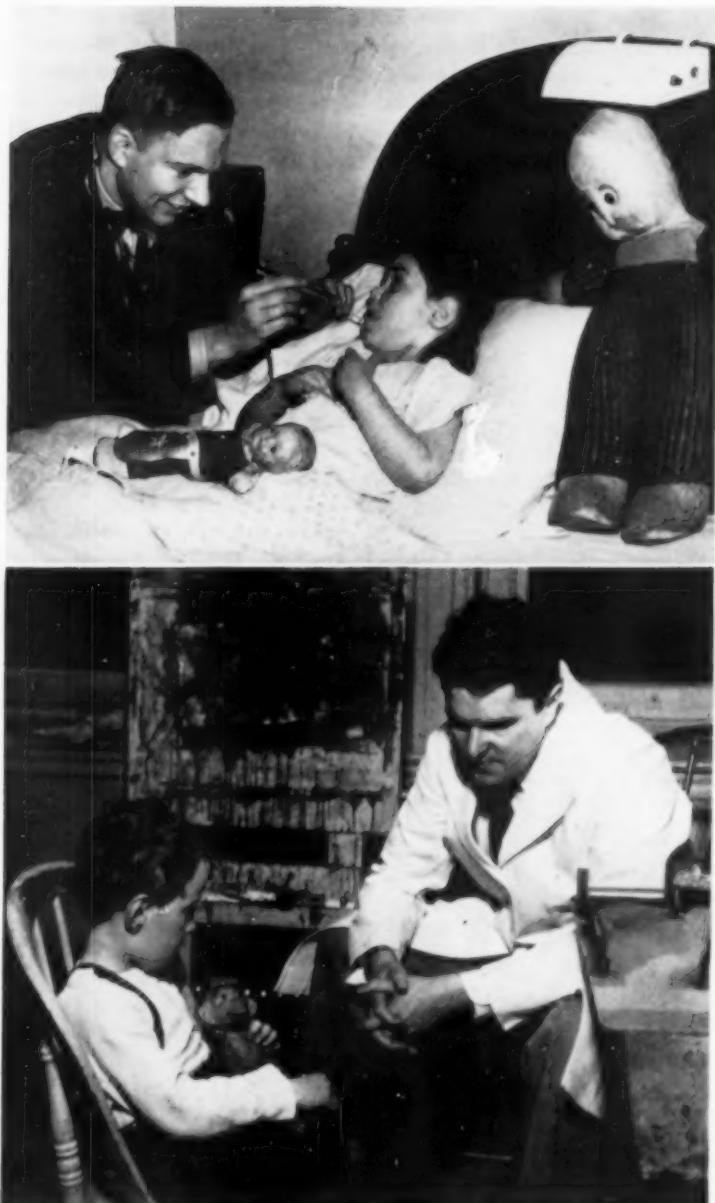
**Reference Reading** Excellent library and reference facilities are at hand or nearby. The Evans Reading Room—two floors below the house officers quarters and one below the operating rooms—contains all popular current medical journals and some reference works. The



Instructor is Dr. Chester S. Keefer, Physician-in-Chief and Director of the Evans Department of Clinical Research and Preventive Medicine.



Expert nursing care and modern equipment aid rehabilitation of paraplegics in wards of the industrial rehabilitation department at Haynes Memorial unit.



Grass roots medicine (at top) brings the staff doctor to the bedside of this young patient in the child's home in Boston's South End. Program is part of Mass Memorial's Home Medical Service unit. Below, a staff doctor interviews youngster as a phase of child development study conducted by Mass Memorial's psychiatry department.

School of Medicine library, across the street from the hospital, has 25,000 volumes and 525 journals. A couple of miles away is the famed Boston Medical Library.



Typical of the extensive research and diagnostic equipment at Mass Memorial is this balloon kymograph, here demonstrated on a patient in gastroenterology.

**Recreation** While space demands do not permit extensive hospital recreational facilities for house officers, a recreation room has been set aside for them, with pool and ping-pong tables and television.

Mass Memorial, however, is only a few minutes from downtown Boston, where can be found such varied attractions as the Boston Symphony Orchestra; the Red Sox, Bruins and Celtics; the summertime Arts Festival; swan boats in the Public Garden; Locke-Ober, Jake Wirth's and Durgin-Park restaurants; and a theater district where Broadway hits are born.

And of course the mountains, lakes, streams, fields and coast of New England offer off-duty recreation within short distances of the city.

**Benefits, Dependents Care** Fringe benefits for house officers include: maximum Blue Cross individual benefits at hospital expense, with no charge for hospitalization in excess of this coverage. Health Clinic and OPD services are provided at no charge.

Dependents of house officers receive

At right, orthopedic doctors put the finishing touches on plaster cast.



MEDICAL TIMES

a ten per cent discount on the hospital bill (exclusive of "non-hospital services" such as transfusion blood, guest meals and so forth). Where Blue Cross is carried, the discount applies only to

that portion of the bill for which the house officer is responsible.

House officers receive two weeks annual paid vacations at the discretion of their chief of service.



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## The Pharmacist On Your Team

**Those who practice the health professions accomplish most when they work together as a team, each performing his own duties to the best of his ability while understanding and respecting the efforts of his teammates. Here is part of the pharmacist's role in aiding his teammate, the physician.**

MEARL D. PRITCHARD, PH.G.

Rrrrrring . . . . .

"Good morning! Jones Pharmacy, Calvin Jones speaking."

"Good morning, Cal, this is Hal Cullen."

"Yes, doctor, what can we do for you?"

"I read an article in the Journal last night about a drug called ———. It seems to fit the need of a certain patient of mine. Is it available?"

"Probably new or marketed under a trade name, Hal. Let me look in my files, just hold the wire a moment———"

——— Yes, it is new but it is available under the name of ——— and comes in 10 mg and 25 mg tablets. We have condensed literature here. Can I give you any other information about it?"

"No, thanks, the article gave me sufficient information for now. Do you have any on hand?"

"Yes, we do."

"Fine, I'll stop by this noon."

**New Products** Such phone conversations are common in the pharmacy today. The flood of new products has both the pharmacist and physician searching for ways in which to sift the wheat from the chaff.

Each year some 400 new medicines are brought into the ethical market. Hundreds more standard prescription products appear in new forms, dosages and other variations of formula. Duplications are inevitable. And the accelerated speed of pharmaceutical research leaves in its wake thousands of products which have been superseded, improved, or fail to measure up to their fullest expectations.

**Information, Inventory** Thus the pharmacist, since he deals with physicians in many of the specialties of medical practice, must keep as complete an

information file as possible. In addition, he must stock many of the new items. To do the latter, the better prescription pharmacies arrange with the major companies to send them a small supply of all new products as soon as they are released. This is accomplished on what is termed "automatic shipment," that is, without any specific order being sent to the manufacturer, the pharmacist will automatically receive a quantity of each new item.

The automatic shipment inventory embraces only a small percentage of the total of new products, however.

**Consultant** for the other new products and variations of standard products the pharmacist generally will discuss particular items with the physician and order on the physician's request or on the indicated demand.

As a member of the health team, then, the pharmacist acts as an information center, a local warehouse geared to the immediate physician community, and a professional consultant on pharmaceuticals available to the physician.

**Service** Again, let's listen in on the extension at Jones' Pharmacy — Cal



Jones is speaking.

"Mrs. Allen, have you talked with Doctor Summers about taking more of this medicine?"

"Why, no. It did wonders for me last fall, and I want to take it again because I have a recurrence of the same trouble. I just want a refill, that's all."

"Well, as you know, Mrs. Allen, conditions change and also, new pharmaceuticals come into the picture constantly. I would feel much easier about it if

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**ABOUT THE AUTHOR**—A graduate of the University of Buffalo School of Pharmacy, the author has owned and operated a pharmacy in Buffalo, New York, for the past 30 years. Formerly an instructor at his alma mater, he is currently serving his second four-year term as a member of the Council of the University and last year completed a one-year term as president of the university's General Alumni Board. Mr. Pritchard was a first vice-president of the American Pharmaceutical Association (1948-1949), president of the Erie County Pharmaceutical Association (1950-1951), and president of the American College of Apothecaries (1955-1956). Recipient of numerous awards for his service to pharmacy and pharmaceutical education, the author is also an active citizen and booster of Buffalo. He is past director of the Buffalo Chamber of Commerce and is currently president of the Buffalo Better Business Bureau. "I am almost afraid," he writes, "to give you a list of my associations for fear of being over-estimated. I am just a local pharmacist who has tried to be a good citizen, a member of the community health teams, and a worker in pharmaceutical organizations."

you'd do me a favor. Would you call Doctor Summers first?"

"Well . . . maybe that would be wiser. Thank you, Mr. Jones. I'll call you back."

Cal Jones did not tell Mrs. Allen that—Dr. Sommers had given no refill instructions and, furthermore, he suspected that Mrs. Allen might need medical attention.

Was this a service to the physician? indirectly, yes. Primarily, it was the ethical and *legal* thing to do, protecting the patient of the physician, as well as the physician and the pharmacist. It was a case of teamwork in health.

**Refills** The question of refilling prescriptions is an important one. The refilling of a doctor's prescription was, at one time, almost a custom. Self-medication through the use of medicines prescribed months or years before, sometimes for another member of the family (or even a friend) was a common circumstance. Too common. A few years ago, the danger was not nearly as great as it would be today with the potent medications now available.

**Law** Thus, in 1951, the Humphrey-Durham Amendment to the Food and Drug Act was passed by Congress. Now, under the law, a prescription for drugs restricted to prescription use is not refillable unless the physician so indicates on the prescription. The physician may write "refill once," "refill ———

times," or "refill for ——— months." In a few cases he may wish to instruct, "refill as needed."

The pharmacist must use good professional judgment in emergencies; also he must be quick to spot misuse of medicines. His interest is "the welfare of patient" and "to keep the good will of the patient" for both the doctor and himself.

**Many Public Relations** Physicians are unaware of the size of the public relations effort the pharmacist puts forth on behalf of the physician. Probably the most important instances of this occur with the patient who feels the drug prescribed is too costly. This is a common situation today, especially in the antibiotic and hormone preparations.

"Surely there must be something cheaper he could prescribe," the patient complains.

Rarely is this complaint aired before the physician. The normal course is for the patient to talk about the physician to the pharmacist, especially where it concerns "these high-priced drugs he's always prescribing . . ."

**Complaint** The present-day professional pharmacist is able to deal with this type of complaint—and does.

Depending upon the irritated patient, the pharmacist may answer, "To be perfectly honest, Mr. Blank, this medicine is probably the biggest bargain of your



life. You see, we have become accustomed to these marvelous medications, take them for granted. We often forget their value in terms of speedier recovery. Hospital stays are prevented or shortened considerably. Even your physician's visits are held to a far lower rate than was the case before these drugs were discovered. This prescription you have is expensive to manufacture—but I think you'll agree it's worth every cent you pay for it. And, since the doctor's

the need for a "custom made" prescription properly adjusted to the individual needs of the patient. This is particularly true in the practice of dermatology and ophthalmology.

Pharmacy graduates are the product of four years of intensive training for which they receive a bachelor of science degree. After 1960, this training will be extended to five years. Given an opportunity, these pharmacists will prove that they can prepare effective, stable and acceptable medication made to order for the individual when the need is present. Sometimes, it is economically advantageous. This is, indeed, one of the pharmacist's jobs on the health team.

**Supplies** One final service that helps make the health team effective is the ability of the pharmacist to furnish promptly, office supplies, gauze, injectables, dressings, etc., in small quantities. This keeps the doctor's office inventory down.

The pharmacist knows the value of low inventories and quick turnover in his own business and he can show his physicians the advantage of buying often where they can obtain prompt and efficient service.

The old complaint of "prescribing pharmacists" and "dispensing physicians" will pass with the older men in both professions. Perhaps 90% of this difficulty, where it exists, could be eliminated if physicians and pharmacists would meet on the local level and have a frank discussion of the matter.

**Chief Duties** To summarize the pharmacist's chief duties on the health team:

- The pharmacist serves as a consultant on new drugs.
- He can be a reliable source of sup-



primary interest is to help you get well as quickly as possible, he has selected this particular compound to help you do just that."

**Compounding** What about the "art of compounding"—is it lost? By no means. Here is a real service rendered physician and patient by the pharmacist. True, over 90% of the prescriptions dispensed today are for "ready made" medicines but there is always

ply for drugs the physician wishes to prescribe if the physician keeps him informed of his preferences.

- He guards against misuse of prescription medication and acts as a good will agent for the doctor.
- He supplies, quickly and economically, many office needs.
- He is, first and last, a pharmacist trained in the art of compounding and

able to assist the physician when he needs special medication for his patients.

- Finally, it has been the observation of this writer that a close personal and professional relationship between physician and pharmacist will develop a team that works effectively to preserve the health and welfare of the community, and make working together a real pleasure.

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# Investing For The Successful Physician

Prepared especially for Medical Times by C. Norman Stabler,  
market analyst of "The New York Herald Tribune."

## MUTUAL FUNDS BUYING SELECTED EQUITIES

The \$10,000,000,000 mutual fund industry leaned toward what Wall Street calls a "defensive" investment policy in the final quarter of last year, but in the first quarter of 1957 it displayed renewed interest in well selected equities. The same trend appears to be holding true in this quarter.

The contrast is of interest because it reflects the thoughts of investment managers. In last year's final quarter leading mutual funds actually sold more common stocks than they bought. The extra money was used to build up bond and reserve categories.

A compilation of "The Commercial & Financial Chronicle" shows that in the first quarter, on the other hand, seventy-two investment companies had equity purchases which exceeded equity sales by 44 per cent.

Not all of the 72 funds saw eye to eye

with each other. That is to be expected. Investment managers are as independent as any of us in forming their opinions.

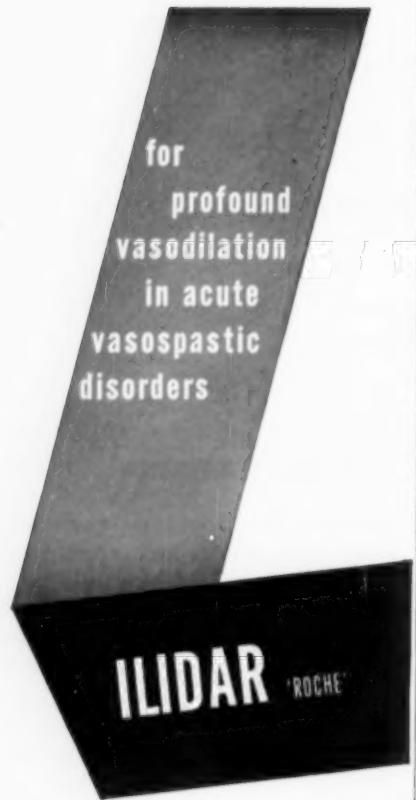
In the first quarter the balance appeared to favor blue chip chemicals, leading drug stocks and oil companies that have large reserves. Blue chips that were sold on balance in the first quarter of 1957 included such leaders as General Electric, Sperry Rand, W. R. Grace, Minneapolis Honeywell and Minnesota Mining & Manufacturing.



C. Norman Stabler

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The information set forth herein was obtained from sources which we believe reliable, but we do not guarantee its accuracy. Neither the information nor any opinion expressed constitutes either a recommendation or a solicitation by the publisher or the authors for the purchase or sales of any securities or commodities.



Increases peripheral circulation and reduces vasospasm by (1) adrenergic blockade, and (2) direct vasodilation.

Provides relief from aching, numbness, tingling, and blanching of the extremities.

Exceptionally well tolerated.

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## FUND INVESTING AND ASSETS CONTINUE TO RISE

Thus, though the stock market was a shaky one during the first quarter of this year, apparently holders of mutual funds were not as nervous as were investors in general.

The first quarter report of the National Association of Investment Companies shows that the number of accumulation plans passed the half-million mark, with investors opening 54,946 new plans in that period, compared with 47,566 in the previous quarter. Accumulation plans are those used by investors for continuing purchase of open-end investment company shares (mutual funds), on a monthly or quarterly basis.

Total net assets of the 162 investment company members of the Association rose in the three-month period by \$129,694,000 to \$10,440,620,000, the highest ever, the Association noted. The number of investment company share holder accounts also rose to a new high of 2,970,420, a gain of almost 200,000 in three months.

In the same time, payment of investment income dividends to shareholders of both open-end and closed-end company shares totaled \$72,085,000 for the quarter, compared with \$71,473,000 for the first quarter of 1956. In addition, distributions to shareholders from realized capital gains during the quarter amounted to \$93,690,000 compared with \$61,207,000 for the same quarter of last year.

Total net assets of the 136 open-end (mutual fund) member companies of N.A.I.C. rose to \$9,105,048,000 at the end of March, up from \$9,046,431,000 at year-end 1956 when there were 135 members.

Purchases of mutual fund shares by investors during the quarter totaled \$367,393,000 with January showing the high figure of \$149,911,000, March \$111,709,000 and February \$105,773,000. This was the 5th consecutive quarter that sales were over \$300 million. The figure for the previous quarter was \$342,606,000.

Repurchases of shares (redemptions) by open-end companies amounted to \$102,247,000 for the quarter. This compares with \$90,661,000 for the previous three months and \$116,972,000 for the first quarter of 1956.

Total net assets of the 26 closed-end member companies of the N.A.L.C. rose to \$1,335,572,000 at the end of the first quarter of 1957 compared with \$1,264,495,000 at the end of the previous quarter.

Holders of common stock of closed-end investment companies received dividends from investment income totaling \$6,255,000 and payments from security profits amounting to \$8,746,000 for the quarter. This compares with investment income payments amounting to \$5,012,000 and capital gains distribution totaling \$4,852,000 for the first quarter of 1956.

### **PREDICT 25% RISE IN EARNINGS BY 1961**

Investment Management Co., investor advisors to Fundamental Investors, Inc., has projected our economic growth for the next five years and concluded earnings are going to be better. In fact it envisions corporate earnings, after taxes, increasing 25 per cent to a total of \$27,000,000,000 by 1961.

Hugh W. Long, president, told stock-

**for  
prolonged  
vasodilation  
in chronic  
circulatory  
disorders**



holders at their recent annual meeting that, "Your fund's management currently expects disposable personal income to reach \$360 billion by 1961. This means a 25.4% increase over the next five years in the amount of money people will have to spend after taxes."

Other projections include those shown in the chart.

After pointing out the strengths and weaknesses of present economic conditions Mr. Long told shareholders, "on balance, general business conditions are good. Over all, our economy is well

	1961 (Projected)	% Increase Over 1956
<b>GROSS NATIONAL PRODUCT</b> .....	<b>\$505 Billion</b>	<b>22.6%</b>
<b>CORPORATE DIVIDENDS</b> .....	<b>14 billion</b>	<b>16.6</b>
<b>POPULATION</b> .....	<b>180 million</b>	<b>7.1</b>
<b>FRB INDEX OF IND'L PROD.</b> .....	<b>170</b>	<b>18.9</b>
<b>WHOLESALE PRICE INDEX</b> .....	<b>122</b>	<b>6.7</b>

ahead of the early months of 1956 and indications are that it will continue at a healthy pace."

### AN INVESTMENT FORMULA

There are many systems and formulae for investing. You can pay your money and take your choice. There is one that holds that if you like a company's product you should buy some of its stock.

Many times this has paid off. Those individuals who have liked, let us say, a Chevrolet, nylon hose or an I.B.M. typewriter, and have thereupon bought General Motors, duPont or International Business Machine stock respectively, will tell you this system is perfect.

But even three swallows, these three, do not make a summer. The Parker Corporation, which is the general distributor for Incorporated Investors and Incorporated Income Fund, takes issue with the alleged excellence of this theory. Its current letter notes the familiar advice, "Solve your problem by investing in the stocks of the companies whose goods you use in your everyday life—companies whose products you eat, wear, or drive."

This formula, it notes, seems to make sense. But does it work?

To show that it doesn't "The Parker Letter" takes 25 popular food stocks and shows what would have happened to a \$10,000 investment in each over a ten year period. Some did well. Some didn't. One of them returned only \$63 in the ten years. In other words, just because something is good enough to eat, doesn't mean the producer's stock is a good buy.

Professional managers know it is one thing to like the products of a company as a consumer, and quite another to like its stock.

The professional knows there are other penetrating questions that must be asked, and answered: how much of sales revenue is brought through to profits after meeting costs of labor and raw materials; how much is earned per share; is the stock fairly priced with relation to these earnings; does the company have goods you will come to know and buy over the next five years?

QUESTION:

*What  
do these patients  
have in common?*



ANSWER: DISTURBED DIGESTIVE PHYSIOLOGY

They are the pregnant, the aged and the sedentary patient, or the fatty foods fan, who frequently display the classic symptoms of biliary stasis—dyspepsia, eructation, nausea and flatulence.

Cholan V combines two therapeutic actions:

- Hydrocholeretic action of dehydrocholic acid to produce an abundant flow of fluid bile.
- Spasmolytic action of homatropine methylbromide—in new therapeutic dosage (5 mg.) for greater effectiveness without sacrifice of safety—to facilitate drainage.

Cholan V provides physiologic biliary tract lavage.

## Cholan V

Each tablet contains 250 mg. Cholan DH® (dehydrocholic acid Maltbie) and 5 mg. homatropine methylbromide. One or two tablets t.i.d., after meals. Bottles of 100, 500 and 1,000.

Hydrocholeresis is contraindicated in certain types of jaundice and in complete bile duct obstruction.

Also available: Cholan DH® (250 mg. dehydrocholic acid) for hydrocholeresis. Cholan HMB (250 mg. dehydrocholic acid, 2.5 mg. homatropine methylbromide,  $\frac{1}{4}$  gr. phenobarbital) for hydrocholeresis, spasmolysis and sedation.

*Write to Professional Service Department for free sample supply.*

MALTBIE LABORATORIES DIVISION  
WALLACE & TIERNAN, INC.

Belleville 9, New Jersey

PCN-72



## Prognosis in Osteoporosis Is Improved With Combined Estrogen-Androgen Therapy

*Osteoporosis, probably the most common of all systemic bone disorders, can usually be traced to decline of gonadal function. It responds favorably to combined estrogen and androgen because of their additive anabolic action on bone and protein metabolism.*

Osteoporosis, in the rapidly increasing geriatric population, occurs in both sexes, but is more prevalent in the female than in the male, due to more rapid gonadal decline.<sup>1</sup> Timely diagnosis is difficult since x-ray examination will not show changes in bone density until at least 30 per cent of the calcium has been lost. There are, however, clinical signs of osteoporosis which are usually manifest before radiologic proof of the disease can be obtained. These include: "low back pain" or dull, tired, aching along the spine; "rounding" of the shoulders; and increased susceptibility to fracture.

"Premarin" with Methyltestosterone therapy provides estrogen to stimulate osteoblastic activity and increase calcium and phosphorus retention, and androgen to exert an anabolic or protein forming action. With this therapy, substantial or complete relief of skeletal pain can be expected in a period of weeks to months. An increase in body weight is usually noted. The general well-being of the patient is much improved. The prognosis for bone recalcification is good, provided therapy is continued for extended periods. Side effects are not likely to occur because of the opposing action of the two steroids on sex-linked tissue.

### Combined Steroid Therapy Also Prevents P. P. B. E.

Postpartum breast engorgement is effectively suppressed with combined estrogen and androgen which inhibit the pituitary, thereby preventing the release of the lactogenic hormone and arresting lactation.

Fiskio found<sup>2</sup> that "Premarin" with Methyltestosterone therapy, in-

stituted within 45 minutes of delivery, effectively relieved postpartum breast engorgement and suppressed lactation in 96.2 per cent of 267 patients. Menses were re-established after the normal six week period and breast abscesses, nausea, vomiting, excessive lochia and withdrawal bleeding were notably absent. The absence of mental depression during the puerperium was gratifying.

Recommended Dosages: (Directions refer to yellow tablets)

*Osteoporosis:* 2 tablets daily, for the first three weeks; then 1 tablet daily thereafter.

In the female, it is suggested that combined therapy be given in 21 day courses with a rest period of about one week between courses, and be continued for 6 to 12 months; following this period, the patient may be maintained with cyclic therapy employing "Premarin" Tablets alone.

In the male, a careful check should be made on the status of the prostate gland when therapy is given for protracted intervals.

*Postpartum breast engorgement:* Short duration therapy—1 week: 3 tablets every 4 hours for 5 doses—then 2 tablets daily for rest of week. "Step-down" therapy—10-15 days: 1st day—4 tablets; 2nd day—3 tablets; 3rd day—2 tablets; thereafter, 1 tablet daily for 10-15 days. *In either schedule, therapy should be started as soon as possible after delivery.*

Climacteric (female in certain cases): 1 or 2 tablets daily in 21 day courses followed by a rest period of five to seven days.

Supplied in Two Potencies: Yellow tablet contains 1.25 mg. of conjugated estrogens (equine) and 10 mg. methyltestosterone; red tablet contains 0.625 mg. and 5 mg. respectively. Each available in bottles of 100 and 1,000 tablets.

Bibliography: furnished on request.

AYERST LABORATORIES  
New York, N. Y. • Montreal, Canada

5741

## Osteoporosis

### Osteoporosis

Osteoporosis causes bone to become fragile, less elastic, and more susceptible to fractures.

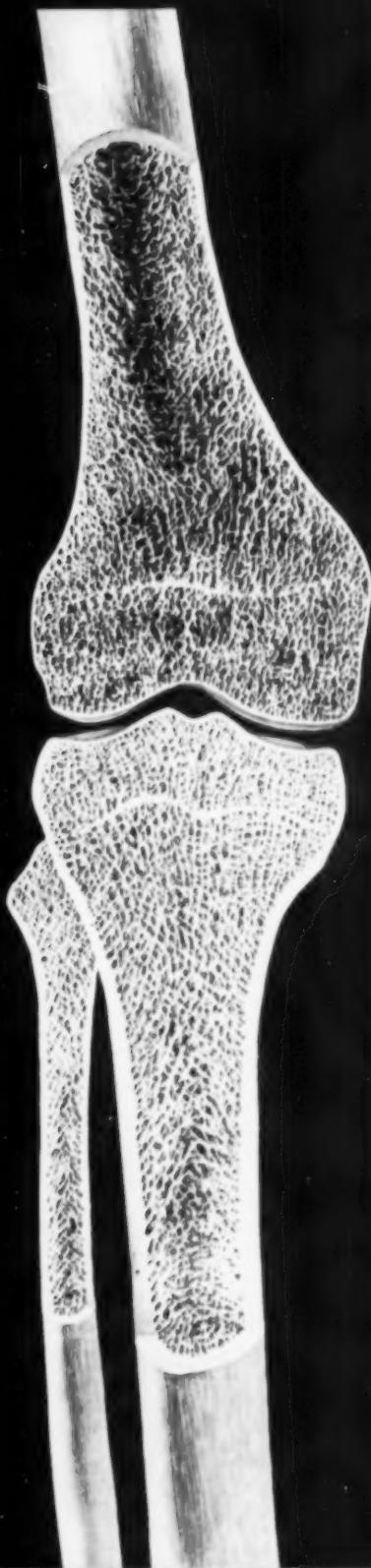
With combined estrogen-androgen therapy, the prognosis for bone recalcification is good, provided therapy is continued for extended periods.

Ayerst Laboratories

New York, N.Y., Montreal, Canada

## "Premarin® with Methyltestosterone

for combined estrogen-androgen therapy



Tibia and fibula show normal bone density contrasted with osteoporotic condition in femur.

# "MYSOLINE"®

Brand of Primidone

## in epilepsy



accepted  
the  
world  
over

The international acceptance of "Mysoline" as a well-tolerated and effective anti-convulsant for control of grand mal and psychomotor attacks is now supported and confirmed by three years of clinical use in the United States. In no instance have irreversible toxic effects been reported.

Supplied: 0.25 Gm. scored tablets, bottles of 100 and 1,000.



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Ayerst Laboratories make "Mysoline" available in the United States by arrangement with Imperial Chemical Industries Ltd.

## INVESTMENT COMPANY AUTOMOTIVE HOLDINGS

One of the question marks about the 1957 economy is the automotive industry. You and I, after a weekend on the highways, will vote that the industry has been too successful and has sold more cars than is good for our combined nervous system, our equanimity and our blood pressure.

Executives of the motor companies however, are convinced they didn't do too well and that they face a major struggle this year. There have been conflicting reports as to just how things are going in that vital area.

Apparently the investment companies feel the motors will make the grade. The 161 closed-end open-end member companies of the National Association of Investment Companies have made a \$514,782,000 bet on it. That's about 5 per cent of their total assets.

The N.A.I.C. study on automotives is the first since May, 1955. It reports separately on vehicle manufacturers, parts and equipment makers, farm equipment manufacturers and tire and rubber companies. In 1955 the same categories represented holdings of \$312,578,000, an estimated 4.3 per cent

of total investment company assets at that time.

In the two-year period, the opportunity for public participation in the ownership of the automotive industry was broadened by the offering of Ford Motor Company stock to the public for the first time in January, 1956. Currently 46 investment companies hold Ford Motor Company common shares valued at \$34,063,000. Leaving out this amount, the percentage of total investment company assets changed very little in the two-year period.

Still first among vehicle manufacturers is General Motors with 68 investment companies holding its common stocks valued at \$92,443,000. In '55, 62 investment companies held GM common shares then valued at \$67,377,000.

Ford is second in current holdings followed by Chrysler whose common stock valued at \$20,186,000 is held by 23 investment companies and Ford of Canada with \$6,660,000 worth of its common stock held in the portfolios of 14 investment companies. Fifth was Mack Trucks with eight investment companies holding its stock valued at \$1,459,000.

## RUBBER COMPANY SHARES HELD BY FUNDS

Tire and rubber companies represented the highest dollar amount of common shares held by investment companies in the automotive class with \$238,742,000 in shares held compared with \$141,712,000 in 1955.

Goodyear Tire and Rubber is the most widely held by investment companies with 60 companies holding its common shares valued at \$89,295,000.

B. F. Goodrich is second with 42 companies holding \$62,856,000.

Third and fourth in current holdings in the rubber group are U.S. Rubber with 37 investment companies holding shares valued at \$23,079,000 and Firestone Tire & Rubber with 28 companies holding its shares totaling \$61,797,000.

A summary of the automotive holdings is shown on the following page.

**A GLIMPSE**  
**of Investment Company**  
**AUTOMOTIVE HOLDINGS**

**Fourth Highest in Per Cent of Assets**

**TIME & RUBBER COMPANIES**

(Complete List)

	Number of Inv. Co.'s. Holding	\$ Value of Holdings* (\$000)
Goodyear Tire & Rubber	60	87,295
B F Goodrich	42	62,856
U. S. Rubber	37	23,079
Firestone Tire & Rubber	28	61,797
Armstrong Rubber	5	1,983
General Tire & Rubber	4	1,444
Lee Rubber & Tire	1	189
Hewitt-Robins	1	79
		<b>\$238,742</b>

**FARM EQUIPMENT MANUFACTURERS**

(Complete List)

	Number of Inv. Co.'s. Holding	\$ Value of Holdings* (\$000)
Deere & Co.	42	23,648
International Harvester	24	12,731
Allis Chalmers	23	9,298
J. I. Case	1	134
		<b>\$45,811</b>
Total		
		<b>\$158,343</b>

**VEHICLE MANUFACTURERS**

(Complete List)

	Number of Inv. Co.'s. Holding	\$ Value of Holdings* (\$000)
General Motors	68	92,443
Ford Motor Co.	46	34,063
Chrysler Corp.	23	20,186
Ford of Canada	14	6,660
Mack Trucks	8	1,459
White Motor	2	990
Studebaker Packard	2	59
Freightau Trailers	1	2,483
		<b>\$45,811</b>
Total		
		<b>\$158,343</b>

\*In market value as stated in the latest available financial reports of member companies.  
 Source: National Association of Investment Companies.

in urinary tract  
infections of pregnancy  
delay is dangerous...

"Approximately one-half of the patients have  
some permanent damage to the urinary tract."<sup>1</sup>



**FURADANTIN®**

BRAND OF NITROFURANTOIN

*first...*  
FOR RAPID ERADICATION OF INFECTION

Specific for genitourinary tract infections  
• rapid bactericidal action against a wide  
range of gram-positive and gram-nega-  
tive pathogens and organisms resistant to  
other agents • negligible development of  
bacterial resistance • excellent tolerance  
—nontoxic to kidneys, liver and blood-  
forming organs • safe for use in preg-  
nancy<sup>2,3</sup>

AVERAGE FURADANTIN DOSAGE: 100 mg.  
q.i.d. with food or milk. Continue treat-  
ment for 3 days after urine becomes sterile.

SUPPLIED: Tablets, 50 and 100 mg.  
Oral Suspension (25 mg. per 5 cc. tsp.).

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NITROFURANS

a new class of antimicrobials—neither antibiotics nor sulfonamides

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NORWICH, NEW YORK

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#### THE BIG FIRST QUARTER IN STEEL

	Earnings		Sales	
	1957 QUARTER	1956 QUARTER	1957 QUARTER	1956 QUARTER
U.S. STEEL .....	\$115,478,109	\$104,160,945	\$1,166,484,088	\$1,100,543,080
BETHLEHEM .....	53,427,655	44,963,787	676,108,988	599,556,156
REPUBLIC .....	28,052,826	25,041,392	354,406,193	332,598,475
J & L .....	12,823,000	13,559,000	203,965,000	195,272,000
YOUNGSTOWN .....	10,607,267	10,193,856	192,075,871	177,885,632
NATIONAL .....	13,501,506	14,102,586	176,858,209	170,605,918
ARMCO .....	15,487,752	19,678,979	198,205,419	189,958,346
INLAND .....	14,613,704	14,015,549	203,649,640	190,380,288
<b>TOTAL</b> .....	<b>\$263,991,819</b>	<b>\$245,716,094</b>	<b>\$3,171,752,408</b>	<b>\$2,956,799,895</b>

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#### BIG FIRST QUARTER IN STEEL

The first quarter of the year was a banner one in the steel industry. A United Press survey of the eight largest steel producers, which turn out five of every seven tons made in this country, shows that they upped their sales by more than \$200,000,000 over the first quarter of last year, and that their net income was nearly \$20,000,000 higher.

Each of the eight had higher sales volume and five of the eight improved their earnings. Improved sales reflected a

greater flow of business and also an increase of \$8.50 a ton which went into effect last August.

Bethlehem enjoyed the sharpest rise in both sales and earnings, followed by United States Steel. The three that reported smaller earnings were Jones & Laughlin, National and Armco.

The following is the recapitulation for the first quarter of this year and last year, of the top eight steel producers:

#### BEARISH ON STEEL OUTLOOK

Thus, steel stocks have been a big feature in recent months. Helping them has been the rate of industry operations.

But "The Value Line Investment Survey," published by Arnold Bernhard & Co., believes the immediate outlook is for a consistent gentle downturn in production for the first nine months of this year.

It expects the full-year steel output to be off to about 11,000,000 tons, or 3.7

per cent below the all-time record attained last year.

Customers are ordering on a hand-to-mouth basis and are generally believed to be using steel faster than they are buying it. The need for such inventory reduction, the Value Line Survey points out, is dictated partly by a squeeze on working capital, occasioned by cash needs for plant expansion and a money market which remains exceed-

ingly tight. It also reflects a disappointing level of demand for consumer durable goods—appliances and automobiles. The survey cautions that the usual upturn in steel demand late in the year, as Detroit begins to turn out its 1958 model cars, may prove disappointingly modest.

Few steel equities, The Value Line Investment Survey concludes, offer current dividend returns sizable enough to compensate today's investor for the risk of holding them through a recessionary period—"The time to buy steel stocks will come when a recession is upon us," it says.

### "ENORMOUS DEMAND" FOR STEEL AHEAD

Whatever may be the immediate outlook for the steel industry, the long-term outlook is that we will need far more capacity, and without too much delay.

That is the opinion of Roger M. Blough, chairman of the United States Steel Corporation. Commercial research by members of his organization indicates the American steel industry, which has added over 41,000,000 tons to its production capacity since World War II at a cost of \$8,000,000,000, will

need to add another 50,000,000 tons in the next eighteen years, he told the corporation's stockholders at their recent annual meeting.

Because of this outlook, the most difficult and persistent problem facing the management of U. S. Steel is not temporary drops in steel production, but the problem of striving to keep pace with "the enormous demand" for steel that lies ahead, Mr. Blough declared.

For U. S. Steel to retain its relative position in the prospective market be-

### Guide For Investors

*Based on recommendations of the Securities and Exchange Commission in cooperation with the New York Stock Exchange, American Stock Exchange, National Association of Securities Dealers and others.*

1. Think before buying, guard against all high pressure sales.
2. Beware of promises of quick spectacular price rises.
3. Be sure you understand the risk of loss as well as the prospect of gain.
4. Get the facts—do not buy on tips or rumors.
5. Give at least as much thought when purchasing securities as you would when acquiring any valuable property.
6. Be skeptical of securities offered on the telephone from any firm or salesman you do not know.
7. Request the person offering securities over the phone to mail you written information about the corporation, its operations, net profit, management, financial position and future prospects. Save all such information for future reference.

tween now and 1975, the Corporation would have to increase its capacity about 1,000,000 tons each year during that period, the Chairman said.

"In the light of the enormous capital costs which confront the Steel industry as a whole, it is clear, I think, that one of the most important roles in steel's tomorrow will be played by the investor,"

Mr. Blough said. "His understanding of the need for the reinvestment of profits, and his personal action as a citizen in helping to maintain an economic climate which will lend incentive to further investment, may well be a controlling factor in determining the ability of the steel industry to keep pace with America's expanding needs."

### THE "FULLER BRUSH MAN"

What do Gary Cooper, Evangelist Billy Graham, Former New York City Police Commissioner Francis W. H. Adams, and Cecil Underwood, governor of West Virginia, have in common?

The answer: each was once a Fuller Brush salesman.

If we include the whole field of door-to-door selling, although not as salesmen for the Fuller Brush Co., we could include the names of Abe Lincoln, Gen. Matthew B. Ridgeway, Arthur Godfrey and King C. Gillette, who popularized his safety razor by that method when storekeepers refused to carry his "crazy" invention.

Alfred C. Fuller, the 72-year-old chairman and founder of the Fuller Brush Company, started his one-man operation 51 years ago in a makeshift \$11 a month shed in Hartford, Conn. His investment was \$375, and today his company is a \$92,000,000 worldwide enterprise, aiming this year at a sales goal of \$100,000,000.

There are over 7,000 Fuller brush men, and they make their "pitch" to housewives in more than forty countries, and in almost as many languages. They ring doorbells in virtually every country outside the Soviet sphere.

The company sells over 400 different

types of items, including brushes and cosmetics, and last year its salesmen gave away a total of 110,000,000 free samples.

Mr. Fuller says he believes direct selling has served as a "prime incubator" for small businessmen in the country and a contribution to the national economy. If direct selling were suddenly to disappear from the American scene, the impact on our economy would be serious, he says.

"Aside from the salesmen involved," he added, "direct selling affords employment to tens of thousands of workers who make the merchandise which the dealers sell."

There also are thousands of suppliers whose economic welfare depends largely on the orders they receive from direct selling houses. Should they be cut off from business, many of them would disappear, and their disappearance, Fuller said, would seriously disrupt or impair the economy.

This view also is shared by the National Better Business Bureau which points out that "American business could not fail to be grievously injured by the mortal wounding of direct selling, which is one of the nation's integral business parts."

*specifically for reduction of overweight*



# PRELUDIN®

(brand of phenmetrazine hydrochloride)

*“...a highly effective and safe appetite suppressant...”*

Based on clinical reports, PRELUDIN produces more than twice the weight loss achieved by patients receiving a placebo.<sup>2</sup> It is singularly free of tendency to produce serious side actions, as well as stimulation.<sup>1-3</sup> PRELUDIN imparts a feeling of well-being that encourages the patient to cooperate willingly in treatment.<sup>1-3</sup>

The reduced incidence of side actions with PRELUDIN makes losing weight more comfortable for the average patient, facilitates treatment of the complicated case and frequently permits its use where other anorexiants are not tolerated.<sup>3</sup>

**Recommended Dosage:** One tablet two to three times daily one hour before meals. Occasionally smaller dosage suffices. On theoretical grounds, PRELUDIN should not be given to patients with severe hypertension, thyrotoxicosis or acute coronary disease.

(1) Holt, J. O. S., Jr.: Dallas Med. J. 42:497, 1956. (2) Gelvin, E. P.; McGavock, T. H., and Kenigsberg, S.: Am. J. Digest. Dis. 1:155, 1956. (3) Natenshon, A. L.: Am. Pract. & Digest Treat. 7:1456, 1956.

PRELUDIN® (brand of phenmetrazine hydrochloride). Scored, square, pink tablets of 25 mg. Under license from C. H. Boehringer Sohn, Ingelheim.

**GEIGY** Ardsley, New York

77087



## STOCKS AT A DISCOUNT

We all like the thought of being able to buy at a discount. It can be done in stocks too, but it is somewhat different than when you buy a washing machine, electric refrigerator or theatre tickets at a cut rate.

When the term is applied to stocks, it means an individual issue is selling on the market for less than its book value. It is available to all at the same price.

Book value is the equity behind each share and it may be calculated by subtracting the company's liabilities and debts, which includes the par value of its preferred stock, from the company's total assets. The difference is the stockholders' equity in the business, and when divided by the number of common shares outstanding, we have the book value per share.

### SOME STOCKS SELLING AT DISCOUNTS

Company	Recent Price	Per Share Book Value
AMERICAN STEEL FOUNDRIES .....	38	\$59.51
ARCHER-DANIELS-MIDLAND .....	39	57.93
BOHN-ALUMINUM & BRASS .....	20	37.02
BUDD CO. .....	20	25.80
COLORADO FUEL & IRON .....	29	38.76
CONGOLEUM-NAIRN .....	14	31.82
CRANE CO. .....	32	68.31
DAN RIVER MILLS .....	11	18.72
ELECTRIC AUTO-LITE .....	39	64.26
ELECTRIC STORAGE BATTERY .....	33	53.41
ENDICOTT JOHNSON .....	34	70.58
FOSTER WHEELER .....	44	55.13
GENERAL TIME .....	29	53.13
INTERNATIONAL TEL. & TEL. .....	34	50.99
JONES & LAUGHLIN .....	50	65.25
LEE RUBBER & TIRE .....	19	30.08
LORILLARD (P.) .....	17	24.84
MANHATTAN SHIRT .....	16	26.85
MONTGOMERY WARD .....	38	48.34
OLIVER CORP. .....	13	33.69
PET MILK .....	51	78.86
SCHENLEY INDUSTRIES .....	20	53.47
STEVENS (J. P.) .....	21	60.65
STOKELY-VAN CAMP .....	18	25.56
UNDERWOOD CORP. .....	27	40.61
UNITED STATES LINES .....	30	38.49
U. S. SMELTING, REFG. & MINING .....	53	108.00
WHEELING STEEL .....	57	79.28
WHITE MOTOR .....	51	64.92

It is a figure that is wisely taken into consideration by those who are looking for bargains in the marketplace, but the mere fact that book value is above market value does not mean, in and of itself, that the stock is necessarily a good buy.

The measure of equity behind each share is no measure of future earning power. Individual securities tend to sell more on their price/earnings ratio than on their book value. The investor must keep in mind the risk factors in any sit-

uation, the degree of excellence of a company's management and the probable long-term growth prospects of the industry.

Nevertheless the figure is an important one, especially if a merger is being discussed.

Investors Advisory Institute, Inc., a subsidiary of Forbes, Inc., in a discussion of the subject, listed the stocks that recently were selling at considerable discounts from their respective book values. The list is on page 96a.

#### ATOMIC POWER AND THE STOCK MARKET

We know the power of the atom. We have seen it demonstrated in war and we know of peacetime applications, which promise great things for the future. We realize we are moving steadily into the so-called Atomic Age, when undreamed of powers will be released, and we pray they will be used for the welfare, not the destruction, of mankind.

The myriad problems involved in the harnessing of the atom for useful purposes is in the hands of the scientists. From an investment standpoint those who counsel us on the companies that will probably be the winners, must take second place, and a poor second, to those in the laboratories who work with theories most of us can't even comprehend.

But even as the latter perfect some new theory, or new gadget, they will have need of capital to make it available. The financial community moves in at that point. It is already sizing up the corporations that have an interest, of one kind or another, in this new industry. It was much the same when electric power, the automobile, radio

and television, or any other great new industry was born.

We find a tendency in the financial district to warn investors not to be in too much of a hurry in trying to cash in on atomic power. There have been several instances of this.

Standard & Poor's for instance, noted recently that despite applications of atomic energy and exotic fuels, petroleum remains by far the dominant source of energy wherever mobility is required. These fuels perform spectacularly, but it is the opinion of this statistical service they will remain primarily a military weapon for the foreseeable future.

Boron-based fuels produce high energy, but it points out they are poisonous and highly explosive. They may be able to double the speed of airplanes, "but it does not appear their use will soon become general, mainly because of their high cost." Even when the cost has been lowered, the chances are the big oil companies will have a stake in this phase of the industry, so there is no need to liquidate oil stocks on that basis.

Gulf Oil recently announced purchase

of a minority interest in Callery Chemical Co., a subsidiary of Mine Safety Appliance Co. The companies have a joint program for research and production of high energy fuels to increase the range and speed of jet aircraft and missiles.

Olin Mathieson Chemical is building a plant at Niagara Falls to turn out new exotic fuels.

Standard & Poor's says it is possible that other plants will be built before long to make this type of fuel for the armed forces.

Manufacture of Boron-based fuels should increase the use of Boron. Leading producers of the substance are U. S. Borax & Chemical, 74% owned by British Borax Holdings, Ltd., American Potash & Chemical, and the West End Chemical Division of Stauffer Chemical. According to Standard, over-all impact on these companies' volume probably will

be small.

Many companies are engaged in Boron research, including Olin Mathieson, Gulf Oil, Callery Chemical, Allied Chemical, General Tire, Hercules Powder, Metal Hudrides, Reaction Motors, Thiokol Chemical, and Wyandotte Chemical. Phillips Petroleum produces rocket fuels but is not known to be engaged in Boron research at present.

Standard has this to say about advantages of petroleum aside from the special uses of jet engines and atom-powered submarines:

"Plentiful supply, ease of handling and relatively low cost have made petroleum hydrocarbons the almost exclusive source of mobile power.

"There are, of course, many other possible sources of energy, including various chemical compounds, practically all of which appear to have some fatal disability for practical use."

#### NATIONAL SECURITIES ASKS REAPPRAISAL OF PEACETIME ATOMIC ENERGY PROGRAM

National Securities & Research Corporation, sponsors and managers of the National Securities series of mutual funds, also asserts the atomic dilemma needs solution before major peacetime uses are to be realized.

It calls for a three-pronged attack, embracing more extensive research and development, a reappraisal of the reactor program and a formulation of government policies for domestic and international development of atomic energy, in order to reap the rich harvest of peacetime atomic energy.

"The cold, sobering fact that solutions to the problems of economics, technology, and definitive government poli-

cies must first be found before the promise of atomic energy's tremendous potential can be realized, is now accepted by industry and government experts," Robert Colton, manager of the Atomics & Electronics Division of the corporation, stated. He added that these experts agree it thus may be many years before an "economic incentive" to build nuclear power plants is attained.

Superimposed on original estimates of high nuclear energy costs are recent rising construction costs of plants now underway which add up to overall per kilowatt hour costs averaging well over twice those of power generated by burning coal, oil or gas, Mr. Colton said.

## Investment Services

Upon request you may have a booklet that gives a comprehensive digest of financial information relative to all leading stocks listed on the New York Stock Exchange, American Stock Exchange and many that are traded in the over-the-counter market issues. Just write a card or note for your free copy to Cosgrove, Whitehead & Gammack, members of the New York Stock Exchange and American Stock Exchange and Registered Investment Advertisers, 44 Wall Street, New York 5, New York.

### T. ROWE PRICE

#### GROWTH STOCK FUND, INC.

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OBJECTIVE: Long term growth of principal and income.

OFFERING PRICE: Net asset value per share. There is no sales load or commission.

#### Write for Prospectus

### STOCK STUDIES AVAILABLE

The following is a selected list of analyses recently issued by financial firms on various companies and industries:

COMPANY	FIRM	N. Y. ADDRESS
Coca-Cola Co.	E. F. Hutton & Co.	61 Broadway
Titanium Metal	White, Weld & Co.	40 Wall St.
Mallory-Sharon Titanium	Hayden, Stone & Co.	25 Broad St.
Pullman, Inc.	Auchincloss, Parker & Redpath	52 Wall St.
Manning, Maxwell & Moore	A. C. Allyn & Co.	44 Wall St.
British Industries Corp.	Paine, Webber, Jackson & Curtis	25 Broad St.
Foster Wheeler	Paine, Webber, Jackson & Curtis	25 Broad St.
Western Union Telegraph	Bache & Co.	36 Wall St.
Champlin Oil & Refining	Bache & Co.	36 Wall St.
Carrier Corporation	Walston & Co.	120 Broadway
Carrier Corporation	Fahnestock & Co.	65 Broadway
Amer. Broadcasting-Paramount	Jacques Coe & Co.	39 Broadway
Loew's, Inc.	Wiesenberger & Co.	61 Broadway
Owens-Illinois Glass Co.	Harris, Upham & Co.	120 Broadway
The Texas Company	Harris, Upham & Co.	120 Broadway
Stone & Webster, Inc.	Harris, Upham & Co.	120 Broadway
Rohr Aircraft Corp.	Emanuel, Deetjen & Co.	120 Broadway
Singer Manufacturing Co.	Josephthal & Co.	120 Broadway
New Look in Rubber Industry	A. G. Becker & Co.	60 Broadway
Leeds & Northrop	Reynolds & Co.	120 Broadway
B. F. Goodrich Co.	Reynolds & Co.	120 Broadway
Bethlehem Steel Corporation	Amott, Baker & Co.	150 Broadway
Kaiser Steel Corporation	Evans & Co.	300 Park Avenue
Kaiser Steel Corporation	Shearson, Hammill & Co.	14 Wall St.
Natural Gas stocks	Stanley Heller & Co.	30 Pine St.
Eastern Gas & Fuel	A. W. Benkert & Co.	70 Pine St.
Mallinckrodt Chemical	Morris Cohen & Co.	42 Broadway

"The most startling example," he pointed out, "is the cost increases of the Shipping-port pressurized water reactor plant from \$37.5 million to \$55 million, resulting in power costs which may be as high as 75 mills per kilowatt hour, or well over ten times conventional power costs."

Even the Consolidated Edison Company's plant at Indian Point, N. Y., whose output will be increased about 17%, will cost nearly 30% more than originally estimated—resulting in power costs of about twice those of conventional fuels, Mr. Colton declared.

To bring to fruition atomic energy's high hopes, it is especially important, as part of the first phase of the three pronged attack—research and development—to develop new materials of reactor construction and better fuel sys-

tems, he said.

"Better materials," he explained, "would make possible reactor cores capable of operation at much higher temperatures, which power plant economics demand."

The Atomic Energy Commission has already added and probably will continue to add more reactor types to the original program because even with higher temperature cores, most of the reactor types planned or under construction are still economically unsound, Mr. Colton said. However, he added, it is probable that the AEC will place more emphasis on natural uranium-heavy water moderated and cooled reactors, converters and breeders, as well as gas cooled, higher temperature cores in both closed and open turbine cycles for more economic power.

#### TOURIST BOOM IS ON

This is the time of year when the tourist rush gets moving in earnest. Experts figure the trips of United States tourists will cost \$1,750,000,000 this year.

Western Europe and England will get the lion's share but there are indications Trans-Pacific travel is gaining in popularity. There were signs of it last summer. American tourist expenditures in the Far East, Southeastern Asia and Oceania last year have been tentatively estimated at \$45,000,000, which was up 35 per cent over the 1955 figure. But despite this gain, expenditures in that area were only about 6 per cent of the worldwide expenditures of \$1,600,000,000 in 1955. Over half the United States travelers' expenditures in the Far East were in Japan.

In the first quarter of this year the State Department issued and renewed 11.1 per cent more passports for foreign travel than in the like period of 1956.

Confidence that the international tourist movement will become of steadily increasing importance in all peaceful areas of the world is sustained by a report of the International Air Transportation Association, which said that the number of passengers flying across the Atlantic Ocean this year will top the 1,000,000 mark for the first time.

The Association said that the number of passengers carried on all scheduled airlines, both international and domestic, in 1956 was about 78,000,000; would probably reach 90,000,000 in 1957, and 100,000,000 in 1958.

## Between-Meal Claude is a Vitamin Fraud

*His offense—incessant nibbling—may be a small one, but it can land him in big trouble. At dinner-time he's so full of snacks he couldn't eat a balanced meal if his health depended on it—as soon it will. When you bail him out with a decent new dietary, keep Dayalets in mind for potent multi-vitamin support. Ten important vitamins in each tiny tablet.*

Abbott **Dayalets**<sup>®</sup>  
(ABBOTT'S MULTIPLE VITAMINS)

10 important vitamins  
in each tiny Dayalet:

Vitamin A	3 mg. (10,000 units)
Vitamin D	25 mcg. (1000 units)
Thiamine Mononitrate	5 mg.
Riboflavin	5 mg.
Nicotinamide	25 mg.
Pyridoxine Hydrochloride	2 mg.
Vitamin B <sub>12</sub> (as cobalamin concentrate)	2 mcg.
Folic Acid	0.25 mg.
Calcium Pantothenate	5 mg.
Ascorbic Acid	100 mg.



# CEREBRAL ARTERIOSCLEROSIS



Nursing homes are overcrowded with elderly patients suffering from cerebral arteriosclerosis. In many cases, "strokes" resulting from cerebral hemorrhage or thrombosis are disabling complications.

In this field of neurology and psychiatry, excellent results are obtained with Iodo-Niacin Tablets (potassium iodide 135 mg. and niacinamide hydroiodide 25 mg.). *Iodo-Niacin permits long continued use of iodide medication without iodism.*

Feinblatt, Feinblatt and Ferguson<sup>1</sup> treated 59 elderly patients suffering from arteriosclerosis with Iodo-Niacin for over a year. Dizziness was relieved in 71% of cases, vague abdominal distress in 87%, chronic headaches in 61%, and disorientation in 50%. *There was not a single case of iodism in this series.*

The recommended dosage is 2 tablets three or four times daily, to be continued as long as needed. In urgent cases Iodo-Niacin Ampuls may be used for intramuscular or slow intravenous injections<sup>2</sup>. Apparently no hazard of iodism.

1. Feinblatt, T. M., Feinblatt, H. M. and Ferguson, E. A., *Am. J. Digest. Dis.* 22:5 1955. 2. *Ibid.*, *M. Times* 84:741, 1956.



\* U.S. PATENT PENDING

**Cole** CHEMICAL COMPANY

3721-27 Laclede Ave., St. Louis 8, Mo.

COLE CHEMICAL COMPANY  
3721-27 Laclede Ave., St. Louis 8, Mo.

Gentlemen: Please send me professional literature and samples of IODO-NIACIN.

MT-4

M.D.

STREET

CITY ..... ZONE ..... STATE .....

MEDICAL TIMES

Even stubborn  
trichomoniasis yields...  
because Tricofuron  
is effective  
during menstruation,  
the critical time  
for therapy.

TRICOFURON®

Recurrences of trichomoniasis "are most likely to follow the menstrual period."<sup>1</sup>

"Over and over again today patients are seen with what is said to be an intractable, treatment-resistant *Trichomonas* infestation, but history-taking often reveals that such patients have never had treatment prescribed during any menstrual period."<sup>2</sup>

Menstrual blood in the vagina "forms an excellent medium for the rapid multiplication of *T. vaginalis*"<sup>3</sup> and "lowers the acidity of the vagina and hence there is a tendency to recrudescence [of trichomoniasis] at that time."<sup>4</sup>

Tricofuron is powerfully trichomonacidal "even in the presence of vaginal debris and menstrual blood."<sup>5</sup>

*For 44 of 48 patients: lasting cure was obtained with a single course of Tricofuron therapy.<sup>3</sup>*

*Vaginal Suppositories*—for home use—each morning and night through one cycle, including the important menstrual days. Contain 0.25% Furoxone® (brand of furazolidone) in a water-miscible base. Box of 12, each sealed in green foil.

*Vaginal Powder*—for office use—applied by the physician at least once a week, except during menstruation. Contains 0.1% Furoxone in an acidic powder base of lactose, dextrose, citric acid and a silicate. Bottle of 30 Gm.

**References:** 1. Bernstein, J. B., and Rakoff, A. E.: *Vaginal Infections, Infestations and Discharges*, New York, The Blakiston Company, Inc., 1953, p. 235. 2. Overstreet, E. W.: *Arizona M.* **10**:383, 1953. 3. Schwartz, J.: *Obst. Gyn.*, N. Y. **7**:312, 1956. 4. Crossen, R. J.: *Diseases of Women*, St. Louis, The C. V. Mosby Company, 1953, p. 292.

EATON LABORATORIES



NORWICH, NEW YORK

*Nitrofurans—a new class of antimicrobials—neither antibiotics nor sulfonamides*

## BUSINESS WILL NEED MORE LONG-TERM MONEY

Business is going to need more long-term investment money this year and the requirements of state and local governments will be only a shade less than they were in the record year of 1954.

This is the conclusion reached by the Bankers Trust Company (New York) after a survey it conducted on "The Investment Outlook for 1957," prepared under the direction of Dr. Roy L. Reierson, vice president and economist.

He concludes that, "the underlying pressures in the long-term markets that characterized 1956 are not likely to relax materially."

The forty-six-page report — predicts corporations will offer \$13,000,000,000 in new securities this year compared with \$11,700,000,000 in 1956. After retiring some old debt, the report expects the net new issues will amount to \$8,500,000,000 this year, against \$7,600,000,000 last year.

State and local governments borrowings on their bond issues are expected to total \$6,700,000,000 this year, highest since the record \$6,900,000,000 in 1954. Taking debt retirement into account the net increase in local debt is expected to total \$3,800,000,000, best since 1954's \$4,800,000,000.

Mortgage debt is expected to increase

by \$13 billion, which would be \$1.8 billion below 1956; this assumes that housing starts average 925,000, or more than 15 per cent below last year. New municipal issues, on the other hand, have recently been at a record level, and the backlog of borrowing remains huge. If the financial environment continues more favorable than in 1956, state and local governments will probably be in the market for considerably more long-term money than in 1956.

The inflow of funds to the major savings institutions in 1957 is expected to be somewhat less than in 1956. The study sees larger increases ahead for life insurance companies and pension funds, both private and public, but notes that the growth of funds accruing to the mutual savings banks and savings and loan associations is slowing down materially as a result of the competitive attraction of increased rates on time deposits of commercial banks.

Including time deposits of commercial banks, the savings flow is expected to increase moderately. However, the report continues, "these prospects suggest no important narrowing in the gap between a sustained high volume of investment financing and an only moderately increased flow of savings in 1957."

## "INTERPRETATION" OF ANNUAL REPORT JARGON

These are the months when stockholders receive many annual reports. There are times when the language may appear to be a little complicated.

The Security Traders Association of New York, in connection with its recent annual dinner, had fun at the expense

of its own members and corporate executives. Among other things it undertook to explain some of the jargon in annual reports.

With tongue in cheek it gave the interpretations which are shown on page 105a.

One of the safest, least toxic and most effective therapeutic agents for many conditions in which the weaker tranquilizers or sedatives are inadequate

# Serpasil

(reserpine CIBA)

*On the following pages you  
will find information on these  
aspects of Serpasil therapy:*

## The growing use of Serpasil In everyday practice

PAGE	
2	hypertension
3	emotional disorders
4	tachycardia
4	acute hypertensive crises
5	alcoholism
5	pediatric emotional problems
5	acute psychotic disturbances
6	side effects and precautions

# in hypertension



## Serpasil® can always be considered first

**BECAUSE** *alone*: Serpasil successfully reduces blood pressure, slowly and safely, in about 70 per cent of cases of mild to moderate hypertension.<sup>1</sup>

**BECAUSE** *as a "primer"*: Serpasil may be advantageously used to begin antihypertensive therapy, however severe the case, since it gently adjusts the patient to the physiologic setting of lower pressure.

**BECAUSE** *as a "background" agent throughout other therapy*: Serpasil permits lower dosage of the more potent antihypertensives needed for refractory cases, thus minimizing the incidence and severity of side effects.

**USUAL DOSE**: Initially, two 0.25-mg. tablets. After a week, daily dose should be reduced to 0.25 mg. or less for maintenance.

*"...a useful agent for the treatment of certain types of hypertension...The action...was increased by combining it with [Apresoline]..."*

1. Dean, J. P., McAlpine, J. C., and Boone, J. A.: J. South Carolina M. A. 51:417 (Dec.) 1955.

2. Winsor, T.: Ann. New York Acad. Sc. 59:61 (April 30) 1954.

## In emotional disorders



### Serpasil® provides true emotional control

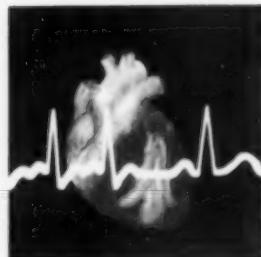
In your daily practice there are undoubtedly many patients whose degree and type of emotional disturbance—characterized by overexcitation, anxiety and agitation—can *not* be adequately controlled with sedatives or weaker tranquilizers. These are the patients whom you can help most with once-a-day administration of Serpasil. For Serpasil actually sets up a "stress barrier" against anxiety and tension the patient would otherwise find intolerable. With Serpasil you can control the emotional turmoil of disturbed individuals; and because Serpasil is restricted to prescription use, control remains in your hands.

*Although it is a first choice in hypertension, Serpasil does not significantly lower blood pressure in normotensive patients.*

**USUAL DOSE:** Initial range is 0.1 mg. to 0.5 mg. (two 0.25-mg. tablets) daily. As little as 0.1 mg. is sufficient for maintenance in some patients. Serpasil can be given in a single daily dose.

*...relieves anxiety and irritability and calms the patient so effectively that because of this latter property alone, the drug should remain in the medicinal armamentarium."*

## In tachycardia



### Serpasil® slows the rapid heart

Many patients can benefit from the heart-sloring action of Serpasil. Those in whom tachycardia is deleterious are helped by its unique bradycardic effect, for Serpasil prolongs diastole and allows more time for the myocardium to rest. Blood flow and cardiac efficiency are thus enhanced.

USUAL DOSE: 0.1 mg. to 0.5 mg. (two 0.25-mg. tablets) daily. After one or two weeks dose may be reduced.

*"Reserpine [Serpasil] was found useful in relieving the tachycardia and emotional symptoms associated with cardiac arrhythmias, thyrotoxicosis, neurocirculatory asthenia, and even coronary heart disease."*

Halpin, H.: J. M. Soc. New Jersey 52:616 (Dec.) 1955.

## In acute hypertensive crises



### Parenteral Serpasil

Serpasil can be used alone in hypertensive emergencies or as a background to more potent antihypertensive agents. Its antihypertensive action is prompt and well-tolerated.

USUAL DOSE: 2.5 mg. (1 ml.) intramuscularly. Additional intramuscular doses of 2.5 mg. may be given as necessary every 8 to 24 hours.

*"...appears to be [a] treatment of choice for hypertensive crises."*

## in alcoholism



### Serpasil® relieves drink-inducing tension

As a part of long-term therapy, oral Serpasil helps the alcoholic "stay on the wagon" by relieving drink-inducing tension, making him more amenable to your counseling.

In acute alcoholism, delirium tremens can generally be controlled within 24 hours with parenteral Serpasil...without the addicting or soporific dangers of drugs such as paraldehyde.

**USUAL DOSE:** *Chronic phase:* two 0.25-mg. tablets or less daily. *Acute phase:* two 2.5-mg. parenteral doses (1 ml. each) 3 or more hours apart. Occasionally, repeat injections of 2.5 mg. every 4 to 6 hours may be necessary.

*...the tranquilizing and anxiety-relieving properties of this drug [Serpasil] offer the possibilities of its being extremely helpful for the long-term therapy of the chronic alcoholic."*

Greenfield, A. R.: *Am. Pract. & Digest Treat.* 7:241 (Feb.) 1956.

## in pediatric emotional problems



### Serpasil Elixir benefits the "problem child"

Serpasil provides a shield against stress in the overreactive, tense, "problem child." Striking remissions have been observed in children with excessive crying, poor eating and sleeping patterns.

**USUAL DOSE:** 0.1 to 0.3 mg. daily (½ to 1½ teaspoons of Serpasil Elixir, 0.2 mg. per 4-ml. teaspoon).

*...provided dramatic relief in remitting the syndrome of irritability in 29 of the 32 cases studied..."*

Talbot, M. W., Jr.: *Ann. New York Acad. Sc.* 61:188 (April 15) 1955.

## in acute psychotic disturbances



### Parenteral Serpasil

The family physician is often called to subdue and arrange for quick hospitalization of patients who suddenly experience violent psychotic episodes. With intramuscular Serpasil these patients are quickly tranquilized and rendered amenable to 'quiet' hospitalization.

**USUAL DOSE:** 5 mg. intramuscularly followed, if necessary, by another 5-mg. intramuscular dose in 90 minutes.

*"It is now possible to discreetly manage acutely disturbed psychiatric patients by the prompt administration of adequate doses of reserpine (Serpasil)."*

Ayd, F. J., Jr.: *The Pharmacologic Management of Everyday Psychiatric Problems* (A Scientific Exhibit). Presented at the Clinical Meeting of the American Medical Association, Boston, Mass., Nov. 29-Dec. 2, 1955.

# Serpasil®

## side effects and precautions

The side effects of Serpasil are characteristic of all rauwolfia preparations.

Although millions of patients have taken Serpasil over the past several years, very few serious side reactions have been reported. There have been no cases of blood dyscrasia, liver damage, addiction or withdrawal symptoms. When patients are properly selected and the lowest effective maintenance dose is established, the physician can prescribe Serpasil confidently, with little fear of untoward reactions.

### Depression

Mental depression, which has developed in a small percentage of patients treated with rauwolfia, should be differentiated from the transient change in mood or physical fatigue that is experienced by almost everyone in the general population. It should also be distinguished from the lethargy experienced by some patients on rauwolfia therapy.

In the few cases in which mental depression does occur, there is some question as to whether or not it is a direct effect of rauwolfia. According to Mayo Clinic investigators,<sup>1</sup> the evidence indicates that rauwolfia *per se* does not cause depression, but rather that it unmasks an underlying susceptibility to depressive reactions. Kinross-Wright<sup>2</sup> states: "It is likely that depression will occur only in a predisposed individual or in one who is already mildly depressed." Ayd,<sup>3</sup> in a very recent paper, states: "That this drug may cause depression is uncertain. After reviewing a large number of so-called drug-induced depressions it appears that in some cases what was called depression was excessive tranquilization, while in the rest, the patients were depressed before the drug was started, and what the drug did was make the depression more apparent."

Whether or not it is an effect of rauwolfia, physicians and responsible members

of the patient's family should be on the alert for the development of symptoms of depression, particularly in patients with a history of pre-existing depressive tendencies. Daily doses above 0.25 mg. are contraindicated in the latter group. On withdrawal of rauwolfia, depression usually disappears, but active treatment, including hospitalization for shock therapy, has been required in some cases.

Adjunctive use of mood-elevating agents such as Ritalin is often sufficient to reverse mild depressions or drug-induced lethargy.

### Other side effects

In addition to lassitude or drowsiness, other mild side effects of Serpasil include occasional nasal stuffiness and increased frequency of defecation and/or looseness of stools. Rarely, anorexia, headache, bizarre dreams, nausea and dizziness occur. With parenteral Serpasil there is a possibility of marked hypotensive effect; therefore, the blood pressure should be taken before injection and the patient kept under observation for 5 or 6 hours thereafter. Because initial doses above 0.3 mg. tend to increase gastric secretion of hydrochloric acid, daily doses above 0.25 mg. are contraindicated in patients with a history of peptic ulcer and lower doses should be used with caution.

For further details on side effects and precautions, write Medical Service Division.

1. Litin, E. M., Faustett, F. L., and Achor, R. W. P.: Proc. Staff Meet., Mayo Clin. 31:233 (April 18) 1956.

2. Kinross-Wright, V.: Wisconsin M. J. 55:1073 (Oct.) 1956.

3. Ayd, F. J., Jr.: Presented at the Sesquicentennial Convention of The Medical Society of The State of New York, New York City, Feb. 18, 1957.

### SUPPLIED:

TABLETS, 0.1 mg., 0.25 mg., 1 mg., 2 mg. and 4 mg.  
ELIXIRS, 0.2 mg. and 1 mg. per 4-ml. teaspoon.

PARENTERAL SOLUTION: Ampuls, 2 ml., 2.5 mg.  
Serpasil per ml. Multiple-dose Vials, 10 ml., 2.5 mg.  
Serpasil per ml.

APRESOLINE® hydrochloride (hydralazine hydrochloride CIBA)

RITALIN® hydrochloride (methylphenidate hydrochloride CIBA)

C I B A

SUMMIT, N. J.

## ANNUAL REPORT JARGON

### WHEN THE REPORT READS:

- As a temporary measure, and in order to increase your company's working capital, it has been decided to reduce the dividend this year.  
**IT MEANS:**  
Earnings are down.
- Further substantial reductions in operating expenses have been made in recent months, despite the intensification of our sales and research activities.  
**IT MEANS:**  
There have been several lay-offs.
- In order for us to broaden our base of public ownership, it has been decided to issue additional stock.  
**IT MEANS:**  
The stock will drop several points.
- While it is true that synthetic discoveries may in the future affect our sales, your management feels that it is fully prepared and equipped to face these problems realistically and with confidence as to the outcome.  
**IT MEANS:**  
Our competition is way ahead of us.
- Although the backlog of orders is smaller than last year, this decrease is reflected in the elimination of our Government contract, which we feel will lessen our dependency on the whims of Congressional appropriations.  
**IT MEANS:**  
Our lobbyist was caught with his hand out.
- Since its listing on the stock exchange, your company has noted with pride public interest in it, as evidenced by a growing volume of trading in its common stock shares.  
**IT MEANS:**  
The directors are selling out.
- Your company has undertaken a long-range program to diversify its operations and broaden its resources.  
**IT MEANS:**  
We've been offered the dandiest uranium mine.
- Your management expects that 1957 will be a more competitive year than 1956, but looks forward with the expectation of satisfactory results and continued growth.  
**IT MEANS:**  
We may go out of business.
- We give due credit to author who we have been unable to find after diligent search.  
**IT MEANS:**  
We lifted the material.



**V** stands for— • greater antibiotic absorption •  
**3** earlier therapeutic blood levels • faster broad-spectrum action. **ACHROMYCIN V Capsules** are the new, rapid-acting, oral form of **ACHROMYCIN** Tetracycline—offering your patients, on the average, twice the antibiotic absorption in half the time required by older preparations.

myclin V

~~myclin~~

**REMEMBER THE V WHEN SPECIFYING**

**ACHROMYCIN V** Tetracycline Buffered with Phosphate



**CAPSULES**—Each capsule (pink) contains tetracycline equivalent to 250 mg. of tetracycline HCl, phosphate-buffered. Bottles of 16 and 100 capsules.

**SYRUP**—Each teaspoonful (5 cc.) of orange-flavored syrup contains 125 mg. of tetracycline HCl activity, phosphate-buffered. Bottles of 2 and 16 fl. oz.

**ACHROMYCIN V** dosage: 6-7 mg. per lb. of body weight per day for children and adults.

LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, N. Y.

\*Reg. U. S. Pat. Off.



## KEYSTONE LIKES CANADA

This is the vacation season, and many of us are looking longingly to Canada. Keystone Fund of Canada, Ltd. has been looking at the Dominion's investment possibilities for years, and also comes up with a favorable report.

S. L. Sholley, president, notes that

since the Fund's inception two and a half years ago it has had a growth which he ascribes "to the continued rapid expansion of the Canadian economy as a whole." All records for Canadian production were surpassed in 1956, for the second consecutive year.

## FOOD FOR THOUGHT, AND MEN

Television Shares Management Corporation, which sponsors Television-Electronics Fund, Inc., centers its attention on securities of companies engaged in electronics, nucleonics (atomic energy) and television. Among its interests is one called Varian Associates, Palo Alto, Cal., which is in the food

processing industry and which, in addition to other activities in this field, is concerned about providing fresh food for men in the front lines, without need for refrigeration.

Food packages up to six inches thick will be handled by the Varian accelerator and will contain normally perishable foods such as uncooked pork, chicken and vegetables, it says. These will be passed through accelerator beams by a conveyor and may then be stored many months without refrigeration because the device's ionizing radiation destroys bacteria in food.

If the Army's program is successful the way will be open for approval of the process by the Food and Drug Administration. "This, in turn, would permit the food processing industry to use radiation processing of fresh foods for the general public," it asserts.

## TAXI?

Uncle Sam, who can lay claim to being the "biggest operator" in many ways, can also claim title as the largest owner and operator of motor vehicles.

A recent General Services Administra-

in anogenital pruritus



and many other skin disorders  
use new **Vioform®**  
**Hydrocortisone**  
**Cream**

antibacterial  
antifungal  
anti-inflammatory  
antipruritic

Tubes of 5 and 20 Gm  
VIOFORM® (iodochlorhydroxyquin CIBA)

C I B A SUMMIT, N. J. 07901

See page following 34a  
for actual clinical demonstration

*As with mother's milk . . .*

## Vitamins and Minerals

S-M-A contains all the vitamins and minerals known to be required by normal infants—in amounts more than adequate to meet the recognized needs of health and growth. S-M-A is protected by processing techniques that preserve all these essential factors.

For free distribution to expectant mothers in your practice, Wyeth offers a Mother's Gift of S-M-A (Liquid or Instant Powder). For your supply, write on your prescription pad to Wyeth Laboratories, Department M, P.O. Box 8299, Philadelphia 1, Pa.



# S-M-A®

Concentrated Liquid  
Instant Powder

Philadelphia 1, Pa.

*for sound infant nutrition*

tion count of Federal vehicles for fiscal 1956 showed some 195,548 vehicles, passenger cars, station wagons, ambulances, buses and assorted trucks (excluding combat and technical units and "off-the-road" construction vehicles). These vehicles rolled nearly 2 billion

miles, or almost the equivalent of 80,315 trips around the earth.

Maintenance and operational cost of this mechanical armada was figured at \$129 million in fiscal 1956, not including nearly \$2 million more in storage costs and depreciation.

### LUXURY CAR MODELS ON UPSWING

We learn from the automobile industry that many of the finer things of life are coming the way of our neighbors. Station wagons, and convertible body styles, "offered at luxury prices, above prices of other body styles," have continued to climb in popularity.

Station wagon production in the first quarter of this year was up 33 per cent over the similar period in 1956. Convertible building was up 10 per cent.

Some car lines which didn't even offer a station wagon in 1956, or only offered the style in one model series, have added

the style or offered it in all series.

Hardtop styling has become a challenge to the entire industry, with each company racing to build a greater percentage of two-door and four-door hardtop cars. This year four have added the hardtop station wagon—Buick, Oldsmobile, Mercury and Rambler.

Automatic power accessories are crowding out the standard manual methods of driving and using an automobile. The manual or straight transmission will soon be as extinct as the dodo bird.

### SATCHEL PAIGE HEALTH RULES

Satchel Paige, ageless baseball pitcher, has six rules of health. Here they are, as listed recently in the "National Live Stock Producer:"

- **Avoid fried meats which angry up the blood.**
- **If your stomach disputes you, lie down and pacify it with cool thoughts.**
- **Keep your juices flowing by jangling around gently as you move.**
- **Go very light on the vices, such as carrying-on in society; the social ramble ain't restful.**
- **Avoid running at all times.**
- **Don't never look back; something may be gaining on you.**

*a NEW  
spasmolytic drug*

*for  
skeletal  
muscle  
spasm*

Disipal<sup>®\*</sup>  
Brand of Orphenadrine HCl

- orally effective
- relatively long-acting
- minimal side actions
- nonsoporific
- tolerance no problem
- no known organic contraindications

### **Effective**

for the Symptomatic Relief of Muscle Spasm in

Parkinsonism  
of all types

Low back pain

Herniated intervertebral disc

Fibrositis

Whiplash injuries

Torticollis

Hemiballism

Huntington's chorea

Cerebral palsy

\*Trademark of Brocades-Smeeman & Pharmacis  
U.S. Patent No. 2,967,351. Other patents pending.

In addition to its spasmolytic effect, Disipal evokes a mildly euphoric response, particularly valuable in the Parkinsonian patient.

Disipal is nonsoporific. Continuous therapy for as long as 44 months produced no serious ill effect, no tolerance.

In 480 cases of Parkinsonism (arteriosclerotic, post-encephalitic, and idiopathic), 50 investigators reported good to excellent results in 286 (59%), and fair in 97 (20.2%).

In 120 cases of other types of muscle spasm, good

results were obtained in 59 (49.1%) and fair results in 24 (20.1%). Side effects are minimal.

**Dosage:** Initially 1 tablet (50 mg.) t.i.d. In combination with other spasmolytic drugs, dosage is titrated to meet individual needs.

*Riker*

Los Angeles

# MODERN THERAPEUTICS

## The Oral Administration of Penicillin

The protective effect of buffering and of food on potassium penicillin G administered orally, was studied on 33 patients. The penicillin was given after a standard meal and in the fasting state. Boger, Schimmel and Matteucci reported in *Antibiot. Med. & Clin. Ther.* [3:446 (1956)] that buffering produced slight but insignificant enhancement of penicillin blood levels and urinary recovery levels when given to fasting individuals. However, a marked increase in penicillin blood level (three- to fourfold) and urinary recovery (twofold) was obtained from buffered preparations when given after the ingestion of food. The large amount of buffers required to accomplish this effect was, however, too large to be practical. Doses of 3 to 6 Gms. of buffers were required. The most effective buffer was composed of sodium bicarbonate, citric acid, sodium citrate, sodium acetate and sodium benzoate.

## The Antifungal Activity of the Parabens

A study of the antifungal activity of a homologous series of the esters of p-hydroxybenzoic acid against *Candida albicans* revealed that the hexyl and heptyl esters were the most active. Compared against caprylic acid, sorbic acid,

and tetramethylthiuram disulfide, these two esters were also superior. Comparisons of antifungal activity were made not only against *C. albicans* but also against a series of 28 of the known causative fungal agents in human diseases. The superiority of the two parabens was particularly evident against the causative agents of systemic fungal infections.

It was found that variation in pH from 6.0 to 7.5 had no effect on the activity of the parabens and that they were stable to the heat of autoclaving. Writing in *Antibiot. and Chemother.* [7:29 (1957)], Hupert suggested that hexylparaben and heptylparaben should be investigated for their effectiveness as therapeutic agents against fungal infections.

## Ulcerative Colitis Treated with Corticotropin

Although the treatment of idiopathic ulcerative colitis with corticotropin had been previously reported, C. W. Wirts and M. E. Rehfuss [*Gastroenterologia*, 36:689 (1956)] have reported their observations on the use of the drug when administered to 49 of their patients. By the intravenous route, a dose of 20 mg. in 500 c.c.m. of 5 per cent dextrose in water was given continuously every day for eight hours for a period of one to two weeks. During the third week, a reduced amount of the hormone was given intravenously or a tapering-off dose intramuscularly according to the clinical response. Several patients had a satisfactory response with 10 mg. given intravenously daily for ten days. In addition to the hormone therapy, all patients received the supportive meas-

—Continued on page 114a

MEDICAL TIMES

when the objective is...

antifungal-antibacterial action

+ potent antipruritic

and anti-inflammatory effects

# STEROSAN®

## Hydrocortisone Ointment

A new, strikingly efficient combination, STEROSAN-Hydrocortisone is particularly valuable in atopic and contact dermatoses and in those conditions requiring combined anti-infective and anti-inflammatory action. STEROSAN-Hydrocortisone (chlorquinaldol GEIGY with hydrocortisone) is available as Ointment containing 3% STEROSAN and 1% hydrocortisone. Tubes of 5 Gm.

when the objective is  
potent antifungal + antibacterial action

# STEROSAN®

Cream and Ointment

STEROSAN® (chlorquinaldol GEIGY) is available as 3% Cream and Ointment.

when the objective is  
long-lasting relief of pruritus

# EURAX®

Cream and Lotion

Provides 8-10 hours of effective relief with  
virtually no danger of sensitization or irritation.  
EURAX® (crotamiton GEIGY) is available as 10%  
Cream and Lotion.



**GEIGY** ARDSLEY, NEW YORK

## MODERN THERAPEUTICS

—Continued from page 112a

ures ordinarily used in the treatment of ulcerative colitis. Response to corticotropin was excellent in 21 patients, good in 17, fair in 8, and poor in 3. The type of response did not correspond to the severity of the illness. The patients who had a fair response, for the most part, had protracted low-grade disease, and those in whom an excellent or good response occurred were noted to have widely-spaced severe exacerbations with periods of complete remission between them. Of the patients treated, all but 7 have been followed for more than one and one-half years, and 18 have been followed for more than three and one-half years. Relapse occurred in 19 patients: in the majority, re-treatment

induced prompt remission which, however, was maintained for a substantial period in only two instances. In 14 other patients, relapses occurred from 12 to 18 months after the course of treatment. These were severe exacerbations and usually were associated with great emotional stress or upper respiratory infection. Re-treatment brought about improvement, but in five instances the response was less prompt. There were no serious side-effects although acne occurred in one patient, rounding of the face in three, and slight edema of the ankles in two. All symptoms were relieved when the drug was discontinued. Based on their findings, the authors are of the opinion that corticotropin is an effective therapeutic adjunct in the treatment of ulcerative colitis. It brings about changes similar to spontaneous

—Continued on page 118a

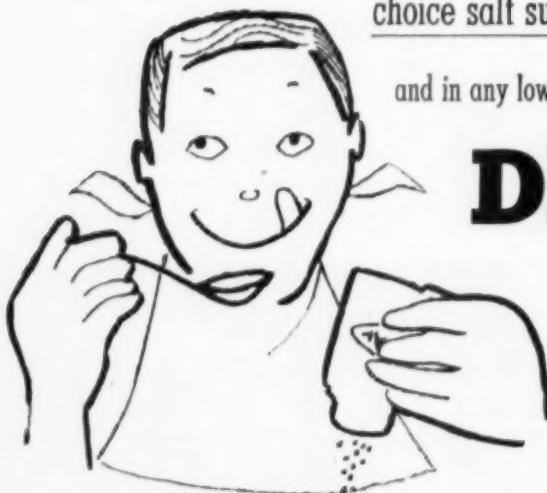
choice salt substitute in a pinch...

and in any low-salt diet you prescribe

# DIASAL®

salt without sodium

looks like salt...  
tastes like salt...  
flavors food like salt



DIASAL, containing potassium chloride, glutamic acid and inert ingredients, is supplied in 2-ounce shakers and 8-ounce bottles.

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1427

extra protection  
for every conception

# Hesper-C Prenatal

*with capillary-protective factors*

*a precaution in normal pregnancy  
a necessity in habitual abortion<sup>1,2</sup>*

The problem of spontaneous abortion is not limited to habitual aborters. It is estimated that 10% to 20% of all pregnancies end in spontaneous abortion. Studies by Greenblatt,<sup>1,3</sup> Javert<sup>4,5</sup> and Dill<sup>2</sup> have revealed that integrity of the decidual vessels is a key to successful completion of pregnancy . . . and confirm that hesperidin complex and ascorbic acid, provided by Hesper-C Prenatal, restore and maintain capillary integrity.<sup>6,7</sup>

In several groups of habitual aborters, these researchers effected substantial fetal salvage—as high as 95% in one series<sup>4</sup>—when Hesper-C (hesperidin complex and ascorbic acid) was added to a regimen of prenatal supplementation and therapy.

Only Hesper-C Prenatal gives your patients the extra protection of hesperidin complex and ascorbic acid, plus the established prenatal vitamin-mineral supplementation, at a nominal increase in daily cost.

Hesper-C Prenatal is the only complete supplement for all your pregnant patients.

*Each capsule contains:*

Hesperidin Complex	100 mg.
Ascorbic Acid	100 mg.
Vitamin A Acetate	1000 U.S.P. units
Vitamin D <sub>3</sub>	200 U.S.P. units
Thiamine Mononitrate	1.25 mg.
Riboflavin	0.75 mg.
Nicotinamide	5.0 mg.

Vitamin B <sub>12</sub>	0.75 micrograms
Folic Acid	0.05 mg.
Pyridoxine Hydrochloride	1.67 mg.
Calcium Pantothenate	1.0 mg.
Ferrous Gluconate (2.5 mg. iron)	21.6 mg.
Calcium Carbonate (83.3 mg. calcium)	208.25 mg.
Copper Sulfate (0.5 mg. copper)	2.0 mg.
Potassium Iodide (0.05 mg. iodine)	0.065 mg.

*In bottles of 100 and 500 capsules.*

*Recommended daily dose:* Two capsules t.i.d.

Providing the daily requirements or more of vitamins and iron during pregnancy as recommended by the National Research Council.

*References:* 1. Greenblatt, R. B.: *Obst. & Gynec.* 2:530, 1955. 2. Dill, L. V.: *M. Ann. District of Columbia* 21:667, 1954. 3. Greenblatt, R. B.: *Ann. New York Acad. Sc.* 67:713, 1955. 4. Javert, C. T.: *Obst. & Gynec.* 3:420, 1954. 5. Javert, C. T.: *Ann. New York Acad. Sc.* 61:700, 1955. 6. Barishaw, S. B.: *Exp. Med. & Surg.* 7:358, 1949. 7. Selzman, G. J. V., and Horoschak, S.: *Am. J. Digest. Dis.* 17:92, 1950.

*Products  
of Original  
Research*



**THE NATIONAL DRUG COMPANY**  
Philadelphia 44, Pa.

*Gentle*  
is the word  
for Noludar

Mild, yet positive in action, Noludar 'Roche' is especially suited for the tense patient who needs to relax and remain clear-headed—or for the insomniac who wants a refreshing night's sleep without hangover. Not a barbiturate, not habit-forming. Tablets, 50 and 200 mg; elixir, 50 mg per teasp.

Noludar® brand of methyprylon  
(3,3-diethyl-5-methyl-  
2,4-piperidinedione)



Original Research in  
Medicine and Chemistry

DAYTIME DIURESIS... NIGHTTIME REST

## IN CARDIAC EDEMA

Many patients with heart failure often respond well to treatment with DIAMOX alone. DIAMOX is effective not only in the mobilization of edema fluid, but in the prevention of fluid accumulation as well.

Patients do not show fluid and weight fluctuations, nor do patients on DIAMOX become refractory following long-term therapy. DIAMOX is well-tolerated orally, and even when given in large dosage serious side effects are rare. A single dose is active for 6 to 12 hours, offering convenient daytime diuresis and nighttime rest. Excretion by the kidney is usually complete within 12 hours with no cumulative effects.

A highly versatile diuretic, DIAMOX has proved singularly useful in other conditions as well, including glaucoma, epilepsy, toxemia and edema of pregnancy, and premenstrual tension.

Supplied: Scored Tablets of 250 mg. (Also in ampuls of 500 mg. for parenteral use).

NONMERCURIAL DIURETIC

**Diamox\***  
Acetazolamide Lederle



LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, N. Y.

\*Reg. U. S. Pat. Off.

## MODERN THERAPEUTICS

—Continued from page 114a

remission but produces them more rapidly. It is not a cure, as is evidenced by the progress of the disease and the fact that relapse occurred in approximately half of the patients.

### Meratran for the Psychiatric Patient

Forty chronic psychotic male patients received Meratran in a controlled clinical trial. The results are reported by A. G. Fullerton of the Herrison Hospital, Dorchester (England) [*Journal of Mental Science*, 102:800 (1956)]. The drug is considered to be a cerebral stimulant which does not interfere with sleep or appetite, is not followed by depression,

and does not cause marked cardiovascular pressor effects. The men in the group used for the study showed depressive features, regression, or retardation; their average length of hospitalization had been seven and one-half years, and they had failed to respond to treatment. Prior to the trial, other forms of medication were suspended. The patients were divided into two groups; one group received Meratran for a period of four weeks while the others took a placebo, then drug and placebo administration was reversed. Meratran was used in a dosage of 6 mg. daily in three divided doses. Circumstances did not permit individualization of the dosage, but apparently a dose of 3 mg. daily increased as needed would have been advisable. The effects of Meratran appear quickly; patients favorably affected described an elevation of mood within an hour although to the observer, beneficial effects appear after 48 hours. Undesirable effects also appear rapidly and reach a maximum in about a week if the drug is not discontinued. Important among these reactions is agitation in which the built up tension may also require dispensing with the drug. Further contraindications to Meratran are found in the overtly deluded patient, and in states of anxiety as well as of agitation and delusion; the drug should be used with caution. The results of Meratran in the schizophrenic group were disappointing; of 27 patients, five were improved, twelve did not respond, and in ten, agitation and delusions increased. Of the thirteen remaining patients in the group, nine showed alleviation of depression, increased interest and activity, and improved appetite. However, upon withdrawal of the drug there was a deterioration

—Continued on page 120a

in contact dermatitis



and many other skin disorders  
use new **Vioform®**  
**Hydrocortisone**  
**Cream**

antibacterial  
antifungal  
anti-inflammatory  
antipruritic

Tubes of 5 and 20 Gm.  
VIOFORM® (iodochlorhydroxyquin CIBA)

C I B A SUMMIT, N. J. 07901

See page following 34a  
for actual clinical demonstration



## the 9 months that matter...

From the earliest months of pregnancy, through birth and lactation, Calcisalin offers nutritional support so important for both mother and child.

**A complete prenatal supplement.** Calcisalin is designed for routine use throughout pregnancy and assures important vitamin and mineral benefits. The daily dose provides

- vitamins and iron
- calcium in *usable* form
- phosphate-eliminating aluminum hydroxide

**Provides usable calcium.** Recent evidence indicates that phosphate-containing supplements

can actually cause calcium blood levels to fall.<sup>1-6</sup> But Calcisalin supplies calcium in the *usable* form of the lactate salt. To absorb excess dietary phosphorus, Calcisalin also provides reactive aluminum hydroxide gel. Thus the risk of inadvertently raising the phosphorus level to the point where it interferes with calcium absorption is avoided.

**Dosage:** Two tablets three times daily after meals. Available: Bottle of 100 tablets and 8-oz. reusable nursing bottles containing 300 tablets.

**References:** 1. Obst. & Gynec. 7:94 (Jan.) 1953. 2. Illinois M. J. 105:305 (June) 1954. 3. Bull. Margaret Hague Maternity Hosp. 6:107 (Dec.) 1953. 4. Missouri Med. 57:727 (Sept.) 1954. 5. J. Michigan M. Soc. 53:862 (Aug.) 1954.

# Calcisalin®

**WARNER-CHILCOTT**

100 YEARS OF SERVICE TO THE MEDICAL PROFESSION

## MODERN THERAPEUTICS

—Continued from page 114a

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in contact dermatitis



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use new **Vioform®**  
**Hydrocortisone**  
**Cream**

antibacterial  
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antipruritic

Tubes, of 5 and 20 Gm.  
VIOFORM® (iodochlorhydroxyquin CIBA)

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See page following 34a  
for actual clinical demonstration

—Continued on page 120a

MEDICAL TIMES



## the 9 months that matter...

From the earliest months of pregnancy, through birth and lactation, Calcisalin offers nutritional support so important for both mother and child.

**A complete prenatal supplement.** Calcisalin is designed for routine use throughout pregnancy and assures important vitamin and mineral benefits. The daily dose provides

- vitamins and iron
- calcium in *usable* form
- phosphate-eliminating aluminum hydroxide

**Provides usable calcium.** Recent evidence indicates that phosphate-containing supplements

can actually cause calcium blood levels to fall.<sup>1-5</sup> But Calcisalin supplies calcium in the *usable* form of the lactate salt. To absorb excess dietary phosphorus, Calcisalin also provides reactive aluminum hydroxide gel. Thus the risk of inadvertently raising the phosphorus level to the point where it interferes with calcium absorption is avoided.

**Dosage:** Two tablets three times daily after meals. Available: Bottle of 100 tablets and 8-oz. reusable nursing bottles containing 300 tablets.

**References:** 1. Obst. & Gynec. 7:94 (Jan.) 1953. 2. Illinois M. J. 105:305 (June) 1954. 3. Bull. Margaret Hague Maternity Hosp. 6:107 (Dec.) 1953. 4. Missouri Med. 51:727 (Sept.) 1954. 5. J. Michigan M. Soc. 53:862 (Aug.) 1954.

# Calcisalin®

**WARNER-CHILCOTT**

100 YEARS OF SERVICE TO THE MEDICAL PROFESSION

## MODERN THERAPEUTICS

—Continued from page 118a

ation of symptoms. Although the author's group was comparatively small, he believes that the results justify further investigation.

### Phenylbutazone in the Treatment of Chronic Rheumatic Disorders

The authors, William C. Kuzell and his associates of San Francisco [*New England Journal of Medicine*, 256:383, 1957] supplement a former report on the use of phenylbutazone with an evaluation of the drug after its administration for periods of one to four and one-half years to a group of 100 patients with a variety of rheumatic disorders. Included in the group were pa-

tients who had responded favorably to short-term use of phenylbutazone. It was hoped that this study would reveal the percentage of persons able to maintain the initially favorable response and to demonstrate the general characteristics of those able to tolerate and to benefit from prolonged medication. The range of daily dosage varied between 100 and 600 mg., the average being 300 to 400 mg. Of 60 patients with rheumatoid arthritis, only seven women failed to retain the original degree of improvement. None of the patients progressed to a higher degree of improvement than had been shown at the time of the original course of phenylbutazone. Twenty-three patients with ankylosing spondylitis experienced initial major improvement that was maintained throughout the period of medication. Four patients

—Continued on page 122a



IN THE  
Management  
OF SMOOTH  
MUSCLE  
SPASM

### HVC HAYDEN'S VIBURNUM COMPOUND

... helps remove tension from  
nerve endings — corrects imbalance  
— restores normal muscle tone.

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try HVC on your next case of smooth  
muscle spasm.



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MEDICAL TIMES

Name: Edwards, Iva (Mrs.) Address: 672 5th Ave. Tel No: AB 4-4134 Occupation: Laundry Age: 43  
Ref. by Mrs. Wilson JCN 444731

Date: 2/4/57 Heavy set, works in hot environment, nylon bra. Eruption under breasts - folliculitis, 1 day - erythema, 3 days - eczematized eruption past week - pruritus, weeping, fissure. Has used several 'salves' and drying lotions, caused burning and spread.

FH-PH: No diabetes, systemic disease

Dx: Intertrigo, inframammary



Worth trying—

PRODUCT INFORMATION

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**SOOTHING, HEALING MULTIVITAMIN SKIN CREAM**

**DESCRIPTION:** Tashan Cream provides four vitamins to help maintain skin health and promote healing.

Each gram (approx. 1/30 ounce) contains:

Vitamin A . . . . . 10,000 U.S.P. units

Vitamin D<sub>2</sub> . . . . . 1,000 U.S.P. units

*d*-Panthenol . . . . . 50 mg (5%)

Vitamin E (*d,l*-alpha-tocopheryl acetate) . . . 5 mg  
in a cosmetically pleasing, vanishing cream type base.

**PROPERTIES:** Vitamins A and D help maintain skin health; inhibit keratin formation; promote smoother, softer skin. Vitamin E is antipruritic; exerts a trophic effect through stimulation of skin metabolism. Panthenol is essential for integrity of tissue in general, promotes epithelization.

**INDICATIONS:** To relieve symptoms and promote healing in skin disorders characterized by itching, dryness, fissures, superficial ulceration, delayed cicatrization, etc., including:

Eczema	Nipple conditioning
Diaper rash	Minor burns
Prickly heat	Contact dermatitis
Intertrigo, chapping	Pruritus ani and vulvae
Sunburn, windburn	Diabetic skin disorders
Decubitus ulcers	Excoriation

**DOSAGE:** Apply a thin layer of Tashan Cream and rub in gently, three or more times daily.

**PACKAGES:** 1 ounce tubes.

Tashan®

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## *More*

### *Comprehensive Action*

# Pentoxylon®



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- Reduces incidence and severity of attacks
- Increases exercise tolerance
- Reduces tachycardia
- Reduces anxiety, allays apprehension
- Reduces nitroglycerin need
- Lowers blood pressure only in hypertensives
- Produces demonstrable ECG improvement

*Dosage:* one to two tablets q.i.d., before meals and on retiring

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**S**imple vomiting of pregnancy occurs in about 50 per cent of all pregnant women.

"... the patients who vomit upon the change of position respond well to Dramamine when given in doses of 50 mg. three times daily."

**Slovin, I.: The Early Toxemias of Pregnancy, Delaware State M. J. 25:48 (Feb.) 1953.**



for dramatic results

**Dramamine®**  
Brand of Dimenhydrinate

**SEARLE**

## MODERN THERAPEUTICS

—Continued from page 120a

with psoriasis showed major improvement. Of thirteen patients with rheumatoid arthritis with degenerative joint disease, eleven achieved a major therapeutic response which was maintained in nine. Laboratory examinations of half of the group of 100 patients gave no evidence of hematologic or hepatic damage attributable to prolonged medication. The group to achieve and maintain the greatest degree of favorable therapeutic response with a smaller sustaining dosage were the patients with ankylosing spondylitis.

### **Mentally Disturbed Epileptic Patients Treated with Chlorpromazine**

A supplemental report on 78 patients in which is included 87 additional cases has been submitted by V. I. Bonafede of Sonyea, New York [*AMA Archives of Neurology & Psychiatry*, 77:243 (1957)]. These 165 mentally disturbed epileptics have been treated at Craig Colony for periods ranging from two months to one year with chlorpromazine (Thorazine). The mental status of the group has been classified as 21 idiots, 47 imbeciles, 46 morons, 47 borderline normals, and four normals; the epilepsy has been present from two to 66 years. The daily dosage of chlorpromazine varied from 50 to 300 mg. Best therapeutic results were obtained with initial doses of 200-300 mg. which was increased or decreased according to response. If no reaction to the chlorpromazine had occurred at the end of four months, the drug was discontinued.

—Continued on page 124a

**MEDICAL TIMES**

clinically proved in alcoholism

# "ANTABUSE"

Brand of DISULFIRAM (4,4-dimethyl-1-piperazine-1-ethanol)

Feldman reports:

"... 'Antabuse' therapy constitutes a major advance in treatment."\*

"The use of alcohol in an 'Antabuse'-treated patient results in physical symptoms which make continued drinking impossible . . . few if any medical contraindications exist."\*

\*Feldman, D. J.: Ann. Int. Med. 44:78 (Jan.) 1956.

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A brochure giving full details of therapy will be sent to physicians upon request.

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## MODERN THERAPEUTICS

—Continued from page 122a

In general, daily maintenance doses averaged 200 to 400 mg. Anticonvulsant therapy was continued, and increase if there was evidence of additional seizures. As a result of chlorpromazine, decided improvement in behavior control was noted. Evaluation of seizures was based on a comparison of their number and frequency in the period under treatment with their previous five-year record. Of the group of 64 patients under treatment for 11-12 months, 45 had no occurrence of convulsions, no change in their previous frequency, or a reduction of seizures as compared with the five-year record. An increase in seizures in some instances occurred in patients in whom the phenobarbital dosage

had been reduced, the factor believed responsible. In the group of 87 patients, 78 had no seizures or no change in the frequency of seizures, so it was concluded that with the maintenance of effective anticonvulsant control any alteration in seizure frequency is minimal. Behavior response in this group was also excellent. Untoward side-effects were of infrequent occurrence.

### **Psychiatrist Calls Tranquilizers Important Development, Cautions Against Unfair Criticism or Over-Enthusiasm**

A University of Michigan psychiatrist recently branded as "unfairly critical" the attitude of those who contend that tranquilizers are merely "chemical straight jackets" designed to make the patient more amenable and submissive.

Speaking at a meeting of the Michi-

—Continued on page 127a

ideal...  when dermatoses are in bloom

# **NEO-MAGNACORT<sup>\*</sup>**

neomycin and ethamicort

**topical ointment**

### **NEOMYCIN + the first water-soluble dermatologic corticoid**

*outstanding availability, penetration, therapeutic concentrations and potency — without systemic involvement.* In 1/2-oz. and 1/6-oz. tubes, 0.5% neomycin sulfate and 0.5% ethamicort (MAGNACORT).

for inflammation without infection **MAGNACORT<sup>\*</sup>** topical ointment

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## **Consistently effective in low back pain**

"...Of 90 patients with low back pain and other muscular conditions...  
67 (74 per cent) showed a good response...."<sup>1</sup>

"...17 of...20 patients with post-traumatic muscle spasm of the low  
back had excellent or good responses."<sup>2</sup>

"In acute and chronic recurrent low back syndrome, seven of eight  
patients showed visible objective improvement."<sup>3</sup>

### **Bibliography**

(1) Johnson, H. J., Jr.: To be published. (2) Wallace, S. L.: To be published. (3) Settel, E.:  
Am. Pract. & Digest Treat. 8:443, 1957.

### **How Supplied**

Pink, Enteric Coated tablets (250 mg.), bottles of 36.  
Yellow, scored tablets (250 mg.), bottles of 50.

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## MODERN THERAPEUTICS

—Continued from page 124a

gan Clinical Institute, Dr. James G. Miller, Professor of Psychiatry at the University's School of medicine, described the tranquilizers as "one of the most exciting and important kinds of development in medicine."

Dr. Miller reminded those critics who term tranquilizers "straight jackets" and "medication into submission" that similar things were said when the anesthetics first appeared, by those who, in effect, challenged the right of physicians to ease pain.

The Michigan doctor emphasized that a vast amount of clinical observation, social observation and experimentation in behavioral techniques is required before it can be said that tranquilizers limit personality or improperly restrict creativity any more than "other drugs like sedatives and anesthetics which are required for specific medical illnesses."

Dr. Miller described studies currently being conducted at the University's Mental Health Research Institute to determine some of the effects of the tranquilizers on normal human beings. The studies indicated, for example, that a normal dosage of "Miltown" (meprobamate) has no effect on the skills required for safe driving, as determined by a battery of visual, perception, steadiness and driving tests. He said the Institute is also developing a series of electronic tests designed to measure reasoning ability and sensory and perceptual ability.

Dr. Miller also described tests with animals conducted at other institutions, which help to determine effects of the drugs on behavior—whether or not, for

example, having learned to respond in a certain way to a stimulus, the animals under tranquilizers forget what they have learned. These researchers found that meprobamate had no effect on this conditioned response. Other tranquilizers, however, were reported to affect behavior in these circumstances.

Two other members of the University of Michigan School of Medicine, Dr. Raymond H. Waggoner, Chairman of the Department of Psychiatry, and Dr. R. W. Gerard, Professor of Neurophysiology in the Department of Psychiatry, also spoke on the subject of tranquilizers.

Dr. Waggoner showed charts which described the usage, dosages and potential side effects of 13 tranquilizers being used today, including chlorpromazine, reserpine and meprobamate, the three

—Continued on following page

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See page following 34a  
for actual clinical demonstration

## MODERN THERAPEUTICS

—Continued from preceding page

most widely used. The charts indicated that these three drugs alone have been used successfully in the treatment of more than a score of conditions, but that of the three, only meprobamate has no reported contraindications, indicating that it is the only one of the leading tranquilizers that may be given in the presence of any disease or condition.

Dr. Gerard described tranquilizers of the types exemplified by chlorpromazine, reserpine, azocyclonol and hydroxyzine as most effective in the treatment of psychoses, and meprobamate of greatest value in "the larger population of neurotic and tense individuals."

Conceding that much was still un-

known about the way that tranquilizers work, all three Michigan doctors cautioned against over-enthusiasm and indiscriminate use of the tranquilizing drugs. Dr. Gerard said that, to obtain further data, the National Institute of Mental Health, in collaboration with the National Academy of Sciences and the American Psychiatric Association, is conducting a series of studies on the tranquilizers.

### Control of Varied Colonic Disorders Achieved in Study

"Unusually effective control" of a variety of colonic disorders with a new preparation has reportedly been achieved in a double-blind control study conducted here at Hartford Hospital by Dr. Martin S. Kleckner of the department of medicine, Yale University School of Medicine.

A postganglionic parasympathetic inhibitor, the new preparation is called Cantil. Chemically it is N-methyl-3-piperidyl-diphenylglycolate methobromide.

Cantil was administered to a series of 27 patients with colonic and other disorders. Dr. Kleckner employed a double-blind control technique, administering Cantil, atropine sulfate and placebo independently four times a day for four-week intervals.

Side effects with Cantil were "practically nil", the author states. Dosage was one 25 mg. tablet administered q.i.d.

The activity of the new drug was confined to the lower gastrointestinal tract, Dr. Kleckner reports. The preparation was also shown to be active spasmolytically by means of roentgenographic motility, balloon-kymographic, procto-

—Continued on page 132a



in atopic eczema  
and many other skin disorders  
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S-M-A contains all the vitamins and minerals known to be required by normal infants—in amounts more than adequate to meet the recognized needs of health and growth. S-M-A is protected by processing techniques that preserve all these essential factors.

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**NYLMERATE JELLY** . . . for vaginal discharges . . . **WARRANTS** your considered judgment. Offers **PROVEN CONTROL**

- Effective Trichomonicidal and Monilicidal action
- Symbiotic organisms eradicated by its bactericidal potency
- Low surface tension allows for deep epithelial cell penetration
- Restores vaginal flora to normal healthy biology
- Simple to use . . . morning and night applications, including treatment during menstrual period



For that first prescription: "Nylmerate Jelly with applicator"

Availability: 3 oz. and 5 oz. tubes with applicators — 3 oz. and 5 oz. refill tubes

**NYLMERATE SOLUTION CONCENTRATE . . . (concomitant measure) . . . when vaginal douching is required.**



Available in pint and 8 oz. bottles with measuring caps

- Acidic (4.1 pH dilution)
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- Reaches innermost recesses via low surface tension
- Ideal as a prophylaxis measure
- Available only on prescription (eliminates possibility of excessive or unwarranted vaginal douching)
- Economical
- Use . . . twice daily (2 tablespoonsful to 2 qts. water) prior to insertion of medication

(Nylmerate: A brand of phenylmercuric acetate)

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**September 25.** Second and third degree burns caused by flaming gasoline. Gauze pressure dressings of White's Vitamin A & D Ointment were changed at weekly intervals.



**October 25.** Healing is complete with minimal scar tissue and no contractures.



## SEVERE BURN OR MINOR IRRITATIONS

### WHITE'S VITAMIN A & D OINTMENT

Topical application of White's Vitamin A & D Ointment speeds restoration of epithelial and connective tissues. Even severe burns respond favorably to the healing action of Vitamin A & D Ointment.

Diaper rash, also chafing and abrasions, readily yield to its therapeutic and protective qualities. Prepared in suitable lanolin-petrolatum base, White's Vitamin A & D Ointment is pleasant to use, free from excessive oiliness, and will keep indefinitely. Does not stain the skin and is easily laundered from diapers or clothing.

You can prescribe it in 1½ oz. or 4 oz. tubes; 1 lb. or 5 lb. jars.



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- diaper rash
- soft tissue injuries
- dry skin
- bedsores
- slow healing wounds
- varicose and diabetic ulcers
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**August 25.** A typical case of diaper rash, characterized by excoriation and soreness.



**September 1.** After only one week of local applications with White's Vitamin A & D Ointment each time diaper was changed, the skin surface is normal.

## MODERN THERAPEUTICS

—Continued from page 128a

scopic and gastric secretory studies.

Fluoroscopic examination also indicated that Cantil decreased intestinal motility in these conditions more consistently than the other agents used in the study.

The report on the study appears in *Clinical Research Proceedings* (5:19, 1957).

### **Mercaptopurine in the Treatment of Chronic Myeloid Leukemia**

Acute leukemia has been reported as having been effectively treated with mercaptopurine, and the author believed that the same agent could be used for the management of chronic myeloid leukemia, wherein maintenance therapy

might provide prolonged remissions. J. R. Fountain of the General Infirmary at Leeds (England) [*British Medical Journal*, 2:1345 (1956)] treated 16 unselected patients with the drug during a two and one-half year period. The initial dose was 2.5 mg. per kg. of body weight, providing adults with 150 to 200 mg. daily in divided doses of 50 mg. When the leucocyte count reached normal, treatment was stopped, or reduced to a maintenance dose between 50 and 150 mg. daily. With the exception of one fatality from cerebral thrombosis the day after beginning treatment, regression of clinical evidence of the disease was observed in all members of the group; in eleven, clinical improvement was regarded as complete. In all 15 patients, the leucocyte count was lowered. In 12 patients defi-

—Continued on page 134a



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## **Convertin®-H tablets**

Enriched digestive enzymes

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In sugar-coated outer layer:	Homatropine Methylbromide	2.5 mg.
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In enteric-coated inner core:	Pancreatin (4 X U.S.P.) (equiv. to Pancreatin U.S.P. 250 mg.)	62.5 mg.
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**DOSE:** One or two tablets with or just after meals.

**SUPPLIED:** In bottles of 84 and 500 tablets.

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## MODERN THERAPEUTICS

—Continued from page 132a

nite improvement occurred in erythropoiesis and hemoglobin synthesis. Experience with mercaptopurine is still limited, but the present study suggests that it will also be a useful therapeutic agent for the palliative treatment of chronic myeloid leukemia. By the use of daily maintenance therapy, prolonged remissions may be obtained, some having lasted up to two and one-half years. No toxic side-effects have been observed, and dangerous thrombocytopenia has not occurred. Like other compounds, overdosage must be guarded against on account of the possible danger of bone-marrow depression. Regular attendance as out-patients for blood

examination is essential, and in the present series it has been the custom to see all out-patients at monthly intervals. The early case, as would be expected, is the most amenable to treatment, although one patient in the acute terminal phase had a complete clinical and hematological remission lasting six months. From current observation, mercaptopurine has a definite place in the therapeutic armamentarium for the management of patients with chronic myeloid leukemia.

### Marsilid, a Potent Resurgitive Drug

Important clinical studies, describing the use of a potent resurgitive drug, called Marsilid, in severe and mild depressions, rheumatoid arthritis and other refractory diseases, have just been announced to the medical profession. These studies show that Marsilid is the very opposite of a tranquilizer—a resurgitive drug, unique in its effect on the mind and the mood. Unlike other drugs used as stimulants, Marsilid does not elevate the blood pressure or depress the appetite.

Preliminary results of Marsilid therapy have just been described at a meeting of the American Psychiatric Association in Syracuse, New York, on April 6. At this meeting, Drs. Nathan S. Kline, John C. Saunders and Harry P. Loomer of Rockland State Hospital, Orangeburg, New York, described the use of Marsilid in the treatment of severe depression in psychiatric patients. They used Marsilid in psychotic patients who had been hospitalized for years and who had not responded to other methods of treatment. After five months of Marsilid therapy, 70% of the patients showed evidence of definite

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These three Deca Family Products have the same basic formulation and the same standard of comprehensive protection. The basic family name Deca is easy to remember and simplifies specification during the vital first decade.

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## MODERN THERAPEUTICS

—Continued from page 134a

improvement. Beneficial results of therapy became apparent two weeks after the initiation of therapy. In addition, the authors observed improvement in ambulatory private patients who were suffering from depression but who were not psychotic.

Dr. Kline and his associates report that Marsilid affects chemical compounds which transmit activity from cell to cell in the brain and the nervous system; in particular, Marsilid inhibits mono-amine oxidase, an enzyme which controls serotonin and other amines which play an important role in the chemical transmission of nervous impulses.

The results of a 5-year study of Mar-

silid therapy in rheumatoid arthritis were described by Dr. Arthur L. Scherbel, head of the arthritis department of the Cleveland Clinic, Cleveland, Ohio. Dr. Scherbel reports that it produces an increased sense of well-being, improved appetite, gain in weight and increase in activity. While the changes in the joints are not dramatic, Marsilid therapy was followed by partial relief of inflammation and definite improvement in over two-thirds of the patients. In some patients, Marsilid was used alone, in others together with steroids.

After five years of investigating the therapeutic effects of Marsilid, Dr. David M. Bosworth, head of the orthopedic departments of St. Luke's and Seaview Hospitals, New York City, reports that the drug stimulates appetite and weight gain, and produces a better outlook on life in patients suffering from chronic orthopedic lesions—both in tuberculous and in non-tuberculous infections of the bones and joints. He reports that open wounds and sinuses frequently healed in patients in whom other medication failed.

Marsilid would appear to be effective in low doses in the treatment of depressed patients, rheumatoid arthritis and as an appetite stimulant. Thus, the use of Marsilid as a resurgitive drug is usually well tolerated, provided the dosage is adjusted skillfully to avoid overstimulation. Excessive doses may cause profound stimulation and other nervous reactions. Reactions due to Marsilid may be controlled by lowering the dose or discontinuing use of the drug.

Marsilid acts very slowly and it may take one to two weeks before its effects are evident.

—Continued on page 140a

MEDICAL TIMES

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## MODERN THERAPEUTICS

—Continued from page 136a

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Marsilid acts very slowly and it may take one to two weeks before its effects are evident.

—Continued on page 140e

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antipruritic

Tubes of 5 and 20 Gm.

VIOFORM® (iodochlorhydroxyquin CIBA)

C I B A SUMMIT, N. J.

2142150

See page following 34a  
for actual clinical demonstration



*will her arms be  
filled this time?*

Improve your abortion-prone patient's chance of coming to term by creating optimal conditions for the maintenance of pregnancy with Nugestoral. Nugestoral supplies five agents known to contribute to fetal salvage. Taken in a dose of three tablets per day, Nugestoral will help bring your abortion-prone patients to term.

*new for the abortion-prone patient*

## **NUGESTORAL**

Each tablet contains ethisterone (Progesterol<sup>®</sup>), 15 mg; hesperidin complex, 175 mg; ascorbic acid, 175 mg; sodium menadol diphosphate (vitamin K analogue), 2.0 mg; dl, alpha-tocopherol acetate, 3.5 mg. In packages of 30 tablets.

ORGANON INC.

*Orange, New Jersey*

# NUGESTORAL

*for the abortion-prone patient helps create an optimal maternal environment with:*

## **ETHISTERONE CAPROATE (Ethinodiol™)**

Of renewed importance in the prevention of abortion,<sup>1-4</sup> luteal hormone prepares the uterus for implantation and maintenance of the conceptus. Its specific uterine relaxant action reduces the excessive uterine irritability so often found in habitual aborters. Ethisterone is the orally effective form of luteal hormone.

## **VITAMIN C (Ascorbic Acid)**

Capillary permeability and fragility may be involved in habitual abortion.<sup>5-9</sup> Since bioflavonoids, particularly hesperidin, acting conjointly with vitamin C, foster capillary integrity, these agents have been employed in habitual aborters to protect decidual vessels, with high fetal salvage as a result.<sup>6-8</sup>

## **VITAMIN K**

The value of vitamin K during pregnancy to prevent bleeding tendencies in both mother and infant is long-established.<sup>10</sup> In addition, it appears that vitamin K may be of value in habitual aborters,<sup>6,10,11</sup> to prevent frequently encountered hemorrhagic diathesis,<sup>7</sup> particularly if membranes rupture prematurely or cervix obliterates and dilates early.<sup>12</sup>

## **VITAMIN E**

Alpha-tocopherol is considered by many obstetricians to be part of the standard therapeutic regimen for poor-risk obstetrical patients, as an extra precaution which has often proven of value. Alpha-tocopherol acetate, particularly, has been credited with improving fetal salvage in many nutritionally inadequate women.<sup>13,14</sup>

## *To Help Preserve Pregnancy In the Abortion-Prone Patient*

# NUGESTORAL

ORGANON INC., Orange, New Jersey

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New!

# Theradan

TRADEMARK

## with Sarthionate

T.M.

*Clears up the severest dandruff with just 3 applications*



### RELIEF LASTS FOR MONTHS

Twenty months of clinical investigation on dandruff demonstrate *complete clearing of scaling in all cases*, usually with just three applications of easy-to-use THERADAN. Dandruff cases resistant to resorcin, sulfur and selenium preparations clear promptly and safely with new THERADAN.

*Relief of scaling is long-lasting—scalp stays clear for 1 to 4 months.*

### HOW THERADAN ACTS

THERADAN is a therapeutic formula not a shampoo or tonic. THERADAN contains Sarthionate, our trademark for a distinctive new combination of a special form of sulfur and a wetting agent.

This unique solution not only clears loose dandruff, but also removes dead tissue by penetrating the outermost layers of the scalp. In mild or moderate cases of seborrhea, THERADAN is left on the scalp for  $\frac{1}{2}$  to 1 hour before shampooing. In severe cases, THERADAN is left on up to eight hours or over night.

## Theradan

*active ingredients*

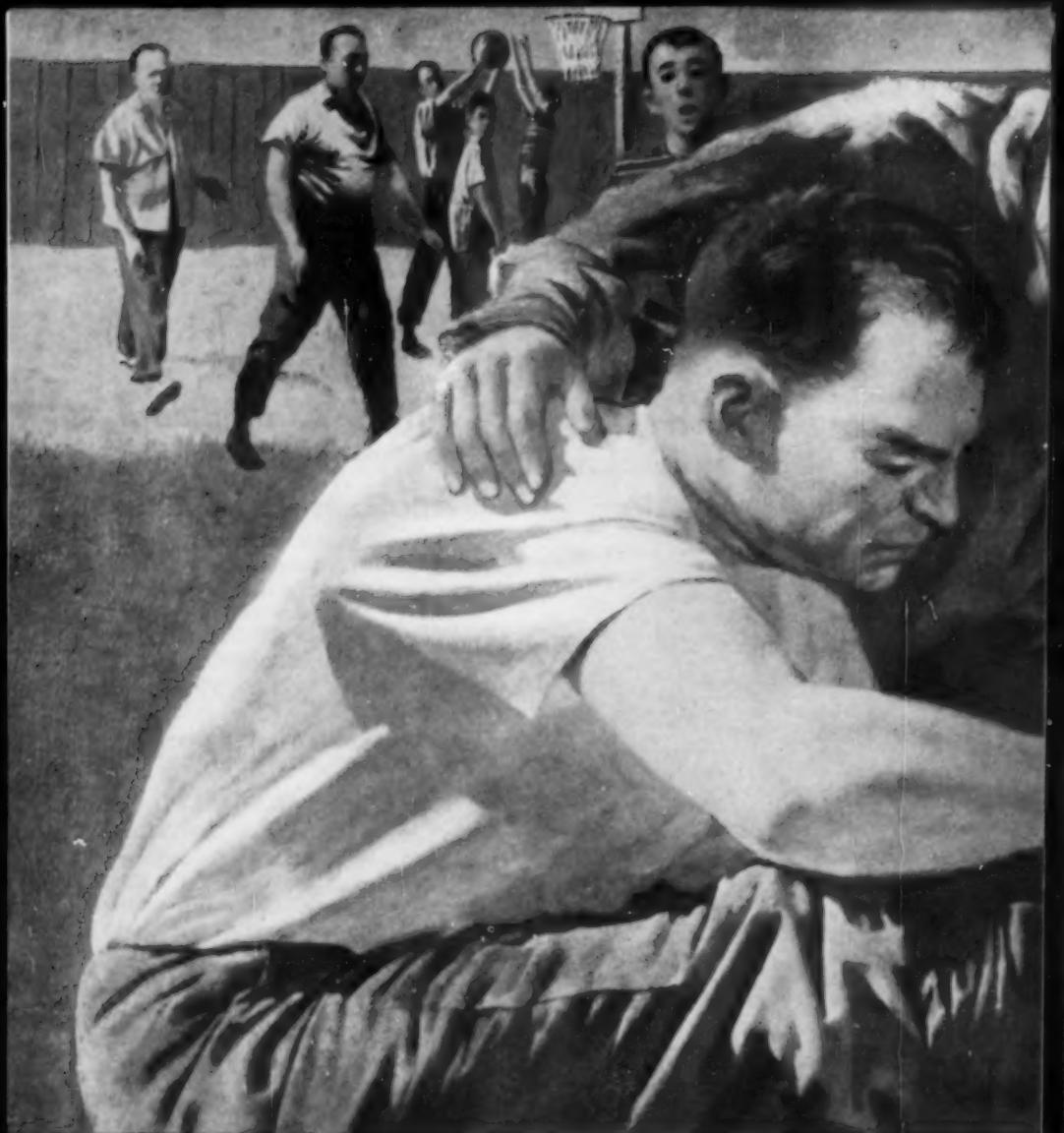
### Sarthionate

laurytrimethyl ammonium polyethoside (by weight)	2.0%
tetradecylamine a lauryl sarcosine (by weight)	0.5%
ethyl alcohol (by volume)	55-60%

For more information about the clinical background of THERADAN, write to Medical Director, Dept. M67.



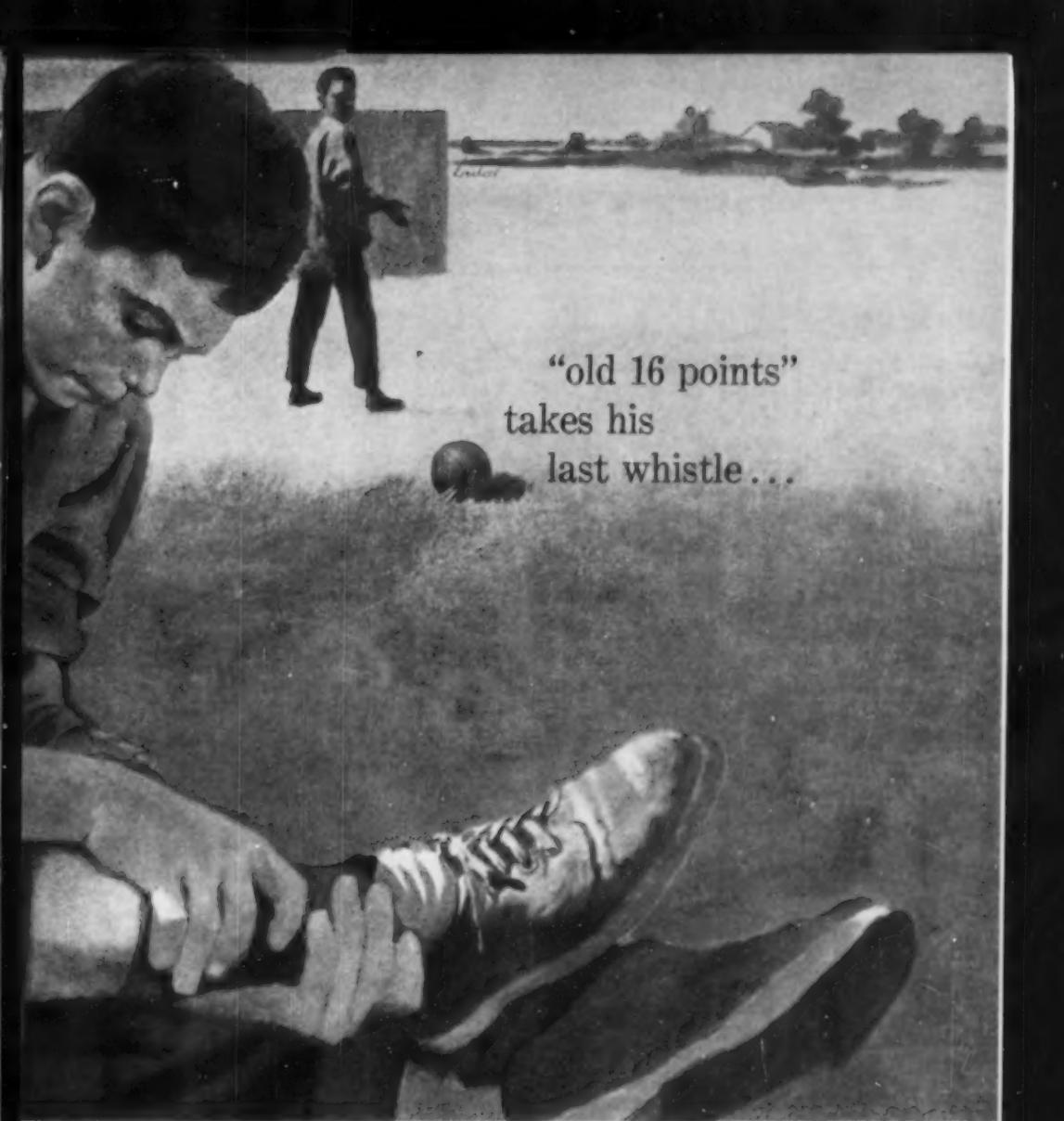
*Bristol-Myers Co. • 19 W. 50 St. • New York 20, N. Y.*



# Sprain

Traumatic periarticular fibrosis is a common penalty for those who go beyond their physical capacity. Early and adequate therapy with SIGMAGEN prevents the development of ligamentous calcification, periarthritis and

its painful, sometimes irreversible, results. SIGMAGEN provides doubly protective corticoid-salicylate therapy — a combination of METICORTEN® (prednisone) and acetylsalicylic acid providing additive antirheumatic benefits as well as rapid analgesic effect. These benefits are supported by aluminum hydroxide to counteract excess gastric acidity and by ascorbic acid, the vitamin closely linked to adrenocortical function, to help meet the increased need for this vitamin during stress situations.



"old 16 points"  
takes his  
last whistle...

Therapy should be individualized. *Acute conditions:* 2 or 3 tablets 4 times daily. Following desired response, gradually reduce daily dosage and discontinue. *Subacute or chronic conditions:* Initially as above. After satisfactory control is obtained, gradually reduce the daily dosage to minimum effective maintenance level. For best results administer after meals and at bedtime.

**Precautions:** Because SIGMAGEN contains prednisone, the same precautions and contraindications observed with this steroid apply also to the use of SIGMAGEN.

for patients who go beyond their physical capacity...protective corticoid-salicylate therapy

# SIGMAGEN<sup>®</sup>

corticoid-analgesic compound tablets

Prednisone.....0.75 mg.      Aluminum hydroxide....75 mg.  
Acetylsalicylic acid....325 mg.      Ascorbic acid.....20 mg.

*Schering*

## MODERN THERAPEUTICS

—Continued from page 136a

Further studies are now in progress to determine just how and in what diseases the remarkable properties of Marsilid can best be utilized. But it is already evident that Marsilid is an unusually potent and versatile drug which should be used only under medical supervision.

### Aged Mental Patients' Bedsores Treated Successfully with New Agent

A "distinct advance" in the treatment of aged institutionalized mental patients' bedsores has been reported by Drs. John E. Morrison and John L. Casali of the Norwich State Hospital, Norwich, Conn.

The "advance" is a new topical enzyme ointment called Panafil. In a series of 30 patients ranging in age from 50 to 80 years, complete healing was achieved in 90% of the cases.

The patients were treated with daily dressings of Panafil, an ointment combining the proteolytic agents papain and urea with water-soluble chlorophyll derivatives.

In a report on their study entitled "Continuous Proteolytic Therapy for Decubitus Ulcers," [American Journal of Surgery 93:446, (1957)], the authors state:

"Complete healing was obtained in 27 patients in from two to six weeks. The proteolytic ointment accomplished complete debridement of the ulcers in from three to five days, and thereafter the lesions remained clean with progressive granulation until healed. No

ROUND  
THE  
CLOCK  
**Freedom from Acidity**  
during  
WORK, SLEEP or PLAY  
for the patient with  
PEPTIC ULCER and  
FUNCTIONAL HYPERACIDITY

TABLETS with **TRI-GEL-MA®**  
MESCOMINE NITRATE  
(BUFFINGTON'S)

Non-systemic and non-constipating anticholinergic, anti-acid and adsorbent. The addition of Mescomine makes it possible to effectively suppress acid secretion over prolonged periods . . . extends intervals between doses . . . eliminates the need for supplemental nocturnal medication.

Contact: Mescomine (isopropylamine methyl nitrate) magnesium trisilicate, concentrated aluminum hydroxide gel.

**BUFFINGTON'S, INC.**  
Worcester 8, Mass., U.S.A.

Write for descriptive literature and professional samples.

evidence of irritation or sensitization was noted. The three failures were patients approximately 80 years old with particularly extensive necrotic involvement."

Drs. Morrison and Casali state their "impression that continuous proteolytic therapy, as exemplified by this preparation, represents a distinct advance in the local treatment of resistant lesions."

The papain-urea-chlorophyllin ointment, they declare, "provides a practical means of maintaining normal circulation and draining in decubitus ulcers."

Inflammatory effects ordinarily associated with products of enzymatic digestion are controlled by the chlorophyllin

content, the report points out, so that continuous use of the proteolytic ointment is made possible.

#### New Interest in the Sulfa

• The sulfa drugs are generating new interest in the fields of medical research and practice. A new member of the sulfa family provides relief for waterlogged heart patients and blindness-threatened glaucoma victims; and another provides long-acting antibacterial action with daily doses a fraction of those normally required.

The presently used antibacterial sulfa, sulfadiazine, meth-dia-mer-sulfonamides (triple sulfa), sulfisoxazole, and the new sulfamethoxypyridazine, are

before  
or after  
they put their  
foot in it...

## ZIRADRYL<sup>®</sup>

Cream • Lotion

Benadryl<sup>®</sup> Hydrochloride with Zirconium

- neutralizes toxins of poison ivy and of poison oak
- controls allergic process
- relieves itching

ZIRADRYL Cream is supplied in 1-ounce tubes.

ZIRADRYL Lotion is supplied in 6-ounce bottles.

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## MODERN THERAPEUTICS

—Continued from preceding page

more effective, less toxic and more specific in action than their ancestors.

● One of these non-antibacterial sulfas is Diamox (acetazolamide), which has the ability to rid the body of retained water by curbing the action of the enzyme carbonic anhydrase, the chemical involved in the process of excretion and retention of sodium. By inhibiting this enzyme, Diamox increases the urinary output and, most importantly, increases the output of sodium.

Introduced in 1953 as an oral diuretic for the treatment of water-logged heart disease patients, Diamox was also found

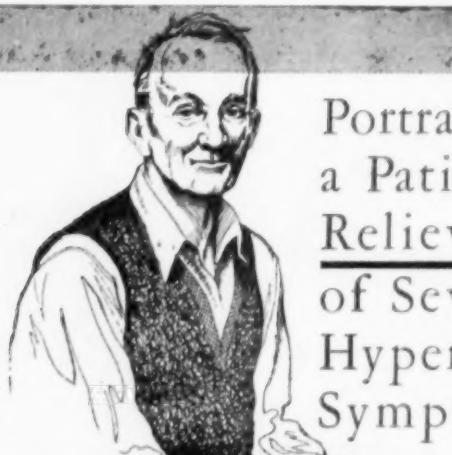
valuable in the treatment of glaucoma—an eye ailment causing about one in eight cases of blindness. Additional uses were found in the treatment of epilepsy, pre-menstrual tension and toxemia of pregnancy.

● Support for the present popularity of the sulfa family comes from the sulfa derivatives, chemical cousins that have unique medical applications.

● The newest antibacterial sulfa drug, sulfamethoxypyridazine, was developed to meet the requirements of low dosage effectiveness in the shortest period of time with freedom from the danger of severe toxic side effects.

This new sulfa, Kynex, has been under investigation for two years.

Six groups of investigators at the



### Portrait Of a Patient Relieved of Severe Hypertension Symptoms



#### Significant

Wilkins, R. W.  
Mississippi Doctor,  
30:359, 1953. Wilkins,  
R. W., and Judson, W. E.  
New England Jl. of Medi-  
cine 248:49, 1953. Duncan,  
Garfield G. Philadelphia  
Medicine 51:24, 1956.

another new approach by . . .

conference on Sulfonamides sponsored by the New York Academy of Sciences in March 1957, attested to the effectiveness of Kynex in the treatment of genitourinary infections, respiratory infections, dysentery and rheumatic fever.

One group reported that Kynex produces high, prolonged blood levels with one-fourth the normal sulfa drug dose. The 75 percent reduction in dosage provides lower cost to patient and maximum convenience for physician and nurse.

#### Weight Trends During Pregnancy

An analysis of the rate of weight gains in 4,214 primigravidae registered at one hospital over a six-year period was recorded by Thomson and Billewicz in *Brit. Med. J.* [No. 5013:243 (1957)].

The patients had not been placed under weight gain regulation.

It was found that the average gain of weight was greater among patients developing pre-eclampsia than among those with normal pregnancies. The incidence of pre-eclampsia was also found to be greater as the rate of weight gain increased. The incidence of prematurity was highest when weight gains were low. It was also high when the rate of weight was abnormally high. The complication of pre-eclampsia was a significant causative factor in prematurity when the rate of weight gain was high but not when it was low.

The most favorable outcome of pregnancy with regard to pre-eclampsia, pre-

—Continued on following page

## \*Portrait Of a Product...

*In the management of mild and severe hypertension many more patients tolerate*

**VERAPENE®** 

In each tablet green, scored tablet. Reserpine—0.1 mg. Protoveratrine A & B—0.4 mg.

SUBJECTIVE improvement is prompt and marked. Patients say they feel better.

DISTURBING SYMPTOMS such as headache, dizziness, tinnitus, disappear rapidly.

THE CHARACTERISTIC EFFECT of Protoveratrine A & B is enhanced by combining with reserpine, reducing the dosage requirements.

PATIENTS who are receiving reserpine respond more favorably to veratrum alkaloids. *'Many more patients tolerate the two drugs in combination, as response can be produced with dosage below usual limits of tolerance.'*

*Sample and literature on request*

.... **Wampole LABORATORIES**

Since 1872 — Henry K. Wampole & Co., Incorporated • 440 Fairmount Ave., Philadelphia

## MODERN THERAPEUTICS

—Continued from preceding page

maturity, and perinatal death was associated with a moderate rate of weight gain. It was recommended that, during the second half of the gestation period, the objective should be a gain in weight of about 1 lb. a week.

### Pantothenic Acid in the Formation of Duodenal Ulcers

Speaking at a symposium at the meeting of the National Vitamin Foundation in New York City, March 5, 1957, Dr. Theodore F. Zucker stated that a deficiency of pantothenic acid may be a factor in the production of duodenal ulcers in man. He stated that studies on rats indicated that duodenal ulcers can develop after 11 to 14 weeks of

pantothenate deficiency. The ulcers, even after long standing, can be cured by the administration of pantothenic acid. Complete mucosal regeneration occurs but permanent scarring of the muscularis remains.

The studies showed that, in well developed pantothenate deficiency in the rat, the volume and the free acidity of the gastric juice was greatly increased. Adrenal cortical hormones produced excess gastric acidity in the rat, but no ulcers were produced unless the rat was deficient in pantothenic acid.

The author suggested that, in pantothenate deficiency, the secretory mechanism of the stomach is sensitized so that an essentially normal adrenal secretion produces hyperacidity and that this sensitization also produces a weakening of the duodenal mucosa.

—Continued on page 147a

OBRON

PREGNANCY DEMANDS THEM.....

CALCIUM  
IRON  
ESSENTIAL VITAMINS  
AND MINERALS  
IN SUPPLEMENTARY AMOUNTS

OBRON  
SUPPLIES THEM

Dosage:  
3 capsules daily,  
bottles of 100.

Regis Chicago 11, Illinois  
PEACE at your ATARAS



*anti-inflammatory . . . bactericidal*

# 'CORTISPORIN'®

*For infected, or potentially infected, inflammatory  
conditions of the eye (anterior segment), ear and skin*

**VIRTUALLY NON-SENSITIZING**

## 'CORTISPORIN' brand OINTMENT

Each Gm. contains: 'Aerosporin'® Sulfate Polymyxin B Sulfate 5,000 Units;  
Bacitracin 400 Units; Neomycin Sulfate 5 mg.;  
Hydrocortisone (free alcohol) 10 mg. (1%).

*Available in applicator tip tubes of  $\frac{1}{4}$  oz. and  $\frac{1}{2}$  oz.*

## 'CORTISPORIN' brand OTIC DROPS

Each cc. contains: 'Aerosporin'® Sulfate Polymyxin B Sulfate 10,000 Units;  
Neomycin Sulfate 5 mg.; Hydrocortisone (free alcohol) 10 mg. (1%).

*Available in sterile dropper bottles of 5 cc.*



**BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, New York**

# Prenatal Dri-kaps\*

VITAMINS MINERALS LEDERLE

## inclusive dosage—exclusive capsule



You offer mother and child extra benefits when you specify PRENATAL DRI-KAPS—comprehensive, balanced multivitamin-multimineral supplementation (including 3 antianemia factors); exclusive DRI-KAPS formulation assuring more rapid and complete absorption. The dry-filled, sealed capsules (a Lederle exclusive) provide convenient, easy-to-swallow dosage, no aftertaste or oily repeat.

### *Each capsule contains:*

Vitamin A	2000 U.S.P. Units
Vitamin D	400 U.S.P. Units
Thiamine Mononitrate (B <sub>1</sub> )	2 mg.
Riboflavin (B <sub>2</sub> )	2 mg.
Niacinamide	7 mg.
Vitamin B <sub>12</sub>	1 mcgm.
Vitamin K (Menadione)	0.5 mg.
Ascorbic Acid (C)	35 mg.
Folic Acid	1 mg.
Calcium (in CaHPO <sub>4</sub> )	250 mg.
Phosphorus (in CaHPO <sub>4</sub> )	190 mg.
Dicalcium Phosphate Anhydrous (CaHPO <sub>4</sub> )	869 mg.
Iron (in FeSO <sub>4</sub> )	6 mg.
Ferrous Sulfate Exsiccated	20 mg.
Manganese (in MnSO <sub>4</sub> )	0.12 mg.

*Dosage:* 1 to 3 capsules, throughout pregnancy and lactation



\*Trademark

LEDERLE LABORATORIES DIVISION  
AMERICAN CYANAMID COMPANY  
PEARL RIVER, NEW YORK



## MODERN THERAPEUTICS

—Continued from page 144a

### Antibacterial Effect of Chlorophyll

The water soluble sodium potassium copper chlorophyllin was found to have a slight bacteriostatic effect against certain gram-positive organisms such as *Staphylococcus aureus*, *Streptococcus pyogenes*, the pneumococcus and the pathogenic clostridia. However, Mowbray reported in *Brit. Med. J.* [No. 5013:268(1957)] that bacterial growth occurred in all concentrations of chlorophyllin employed (up to 1:20) following an initial period of bacteriostasis.

The activity of penicillin, streptomycin and oxytetracycline in the presence of chlorophyllin was increased, as meas-

ured by the agar diffusion method. However, this effect could not be demonstrated by plotting growth curves of *S. aureus* in nutrient broth in the presence of penicillin alone, chlorophyllin alone, and combinations of the two. The authors, therefore, concluded that the increase in sensitivity of the agar diffusion assay of antibiotics produced by subinhibitory concentrations of chlorophyllin was due to some physical property of the preparation and not to a synergistic effect of the antibiotic and the chlorophyllin.

### The Effect of Other Antibiotics on Staphylococcal Resistance to Novobiocin

*In vitro* studies to determine the effect of the combination of other anti-

—Continued on page 149a

when you prescribe

# CARBRITAL®

you prescribe sleep

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Give your patient that extra lift with "Beminal" Forte 817

## MODERN THERAPEUTICS

—Continued from page 147a

biotics with novobiocin in altering the emergence of resistance to *Micrococcus pyogenes* var. *aureus* was undertaken by Lin. and Coriell. The results of their study were reported in *Antibiot. Med. & Clin. Ther.* [4:35(1957)]. Five strains of the organism were tested for the concentration of novobiocin required to inhibit the strain when first isolated from the patient and also after two weeks of daily transfers in media containing novobiocin or a combination of novobiocin and sulfisoxazole, penicillin, chloramphenicol, erythromycin, streptomycin or tetracycline. After 14 transfers, the resistance increased from 140 to 1000 fold. None of the antibiotics nor the sulfonamide when combined with the novobiocin significantly delayed the development of resistance to the novobiocin. The authors pointed out that clinical findings may not confirm these findings, but at present it would seem unwise to combine other antibiotics with novobiocin when used in the treatment of infections with *M. pyogenes*.

### A Rapid Test Method for Differentiating Bacterial from Viral Pharyngitis and Tonsilitis

The difficult task of differentiating bacterial from viral pharyngitis and tonsilitis early in an infection may be accomplished presumptively by examining a slide made from the inflamed area of the throat, according to Green in *U.S.A.F. Med. J.* [8:180(1957)]. A cotton swab is passed over the inflamed area of the throat and then rolled on a

—Concluded on page 152a



**Give your patient that extra lift with "Beminal" Forte when high vitamin B and C levels are required.**

"Beminal" Forte—each capsule contains:  
Thiamine mononitrate (B<sub>1</sub>) ..... 25.0 mg.  
Riboflavin (B<sub>2</sub>) ..... 12.5 mg.  
Nicotinamide ..... 75.0 mg.  
Pyridoxine HCl (B<sub>6</sub>) ..... 3.0 mg.  
Calc. pantothenate ..... 10.0 mg.  
Vitamin C (ascorbic acid) ..... 150.0 mg.  
Vitamin B<sub>12</sub> with intrinsic factor concentrate ..... 1/9 U.S.P. Unit

### Improved formula

**"BEMINAL" Forte**  
with **VITAMIN C**

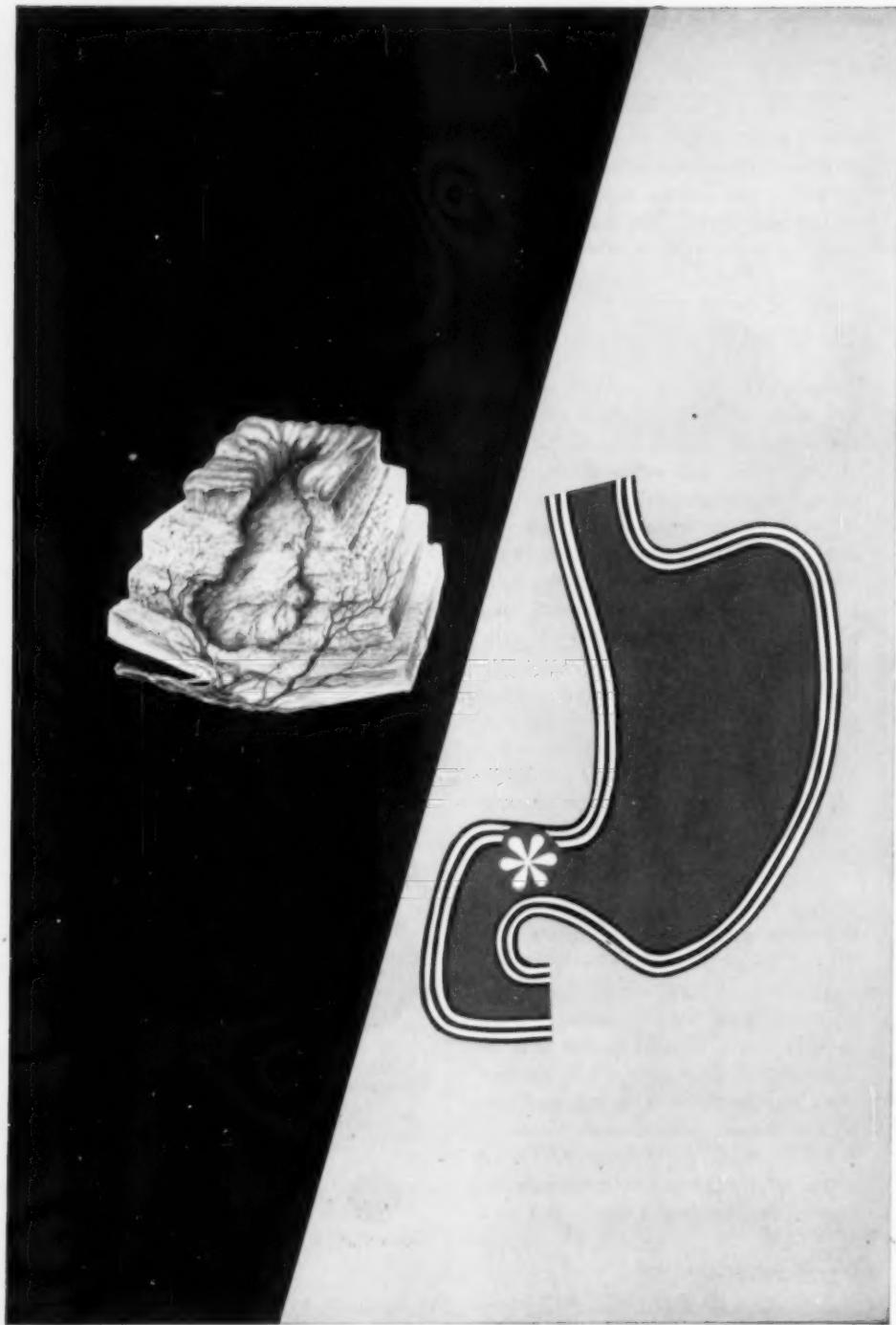
Dosage: 1 to 3 capsules daily, or more, depending upon the needs of the patient.

Supplied: No. 817—Bottles of 100 and 1,000 capsules.



**AYERST LABORATORIES**  
New York, N. Y. • Montreal, Canada

10  
25  
50  
100



BROAD ANTICHOLINERGIC BLOCKADE

# Pro-Banthine<sup>®</sup> relieves pain, accelerates peptic ulcer healing

The efficiency of Pro-Banthine (brand of propantheline bromide) in inhibiting the chemical substance which mediates parasympathetic gastric activity explains the success of the drug in ulcer therapy. Pro-Banthine blocks acetylcholine at both the ganglia and parasympathetic effector sites. This dual action controls excess neural stimulation of both gastric secretion and motility.

The therapeutic benefits of this

anticholinergic blockade consist, as many clinical investigators have noted, in prompt relief of ulcer pain and pronounced acceleration of ulcer healing.

The suggested initial dosage is one 15-mg. tablet with meals and two tablets at bedtime. Two or more tablets four times a day may be indicated in severe manifestations. G.D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.

SEARLE

# B-P HALIMIDE\*

the CONCENTRATE with the  
TWO-FOLD ACTION

*For Instrument Disinfection*

**BACTERICIDAL**

—when diluted with water  
(except the tubercle bacillus)

**TUBERCULOCIDAL *also*—**

when diluted with alcohol

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**PLUS**—these other  
important advantages...

**NON-CORROSIVE**

—No anti-rust tablets to add.

**STABLE**

—Need not be changed frequently.

**ECONOMICAL**

—1 oz. makes 1 gal. of solution.

Bard-Parker HALIMIDE is the result of years of research to develop a concentrate combining maximum bactericidal potency and trouble-free performance. IT'S ECONOMICAL... any way you look at it!

**LIST PRICE**

4 oz. bottle ..... \$2.50

Please ask your dealer  
for quantity discounts.

**B-P INSTRUMENT  
CONTAINER No. 300**  
Of stainless steel and  
PYREX glass with  
airtight cover. Ideal  
for use with B-P  
HALIMIDE.



**PARKER, WHITE & HEYL, INC.**  
Danbury, Connecticut

HALIMIDE and your INSTRUMENTS  
... THEY COMPLIMENT EACH OTHER

## MODERN THERAPEUTICS

—Concluded from page 149a

glass slide. The slide is then stained with Wright's Stain and examined microscopically. A predominance of polymorphonuclear neutrophils or eosinophils usually indicates an infection of bacterial origin while mononuclear cells indicate an infection of viral origin.

In 26 cases with polymorphonuclear neutrophils predominate in the exudate, 22 had positive cultures for beta-hemolytic streptococci and 4 for hemolytic staphylococci. All of these responded well to penicillin administered immediately after the presumptive test. Bacteria were not recovered from the throat of 13 with mononuclear cells predominate in the exudate. Penicillin given to 7 of the latter patients was ineffective as a therapeutic agent.

### Excretion Studies Following the Administration of Ethylenediamine Tetra-Acetate

A patient with amyloid nephrosis received three series of intravenous injections of ethylenediamine tetra-acetate (EDTA) in doses of 2, 3 or 4 Gm. a day. The urinary excretion of cholesterol and zinc was markedly increased. To a lesser degree, iron and manganese excretion was increased. There was no significant change in the excretion of copper, titanium, vanadium, molybdenum, silver, cadmium, lead and tin. However, during each series of injections, peculiar mucocutaneous lesions resembling acute avitaminosis B developed. According to Perry and Schroeder in *Am. J. Med.* [22:160 (1957)], the lesions disappeared within a few days

# In Impetigo and other topical infections<sup>†</sup>



## NEO-POLYCIN\*

**(PITMAN-MOORE)**

... provides three preferred topical antibiotics, *neomycin*, *polymyxin* and *bacitracin* in the unique Fuzene\* (polyethylene glycol diester) base . . . which releases *more* neomycin, *more* polymyxin and *more* bacitracin than do ordinary grease-base ointments.

\*Clinically effective in pyoderma, folliculitis, paronychia, *syconia barbae*, and also secondary bacterial infections complicating treatment of burns, eczemas, contact dermatitis, seborrhea, acne, psoriasis, varicose ulcers and neurodermatitis.

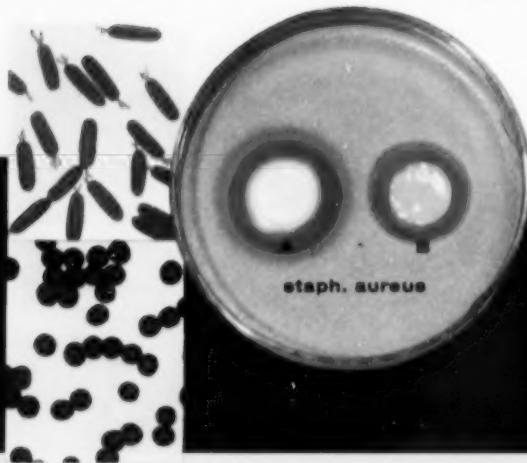
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Miscibility of Neo-Polycin in aqueous medium means greater release of antibiotics into lesions.



Poor miscibility permits only limited release of antibiotics from grease-base ointments.

## visual evidence of GREATER ANTIBIOTIC RELEASE by NEO-POLYCIN



The greater release of antibiotics from Neo-Polycin results in greater antibacterial effect. Compare the zones of inhibition created by (A) Neo-Polycin, and (B) by a topical antibiotic ointment in a grease base.

**NEO-POLYCIN** is effective against the entire range of bacteria commonly found in cutaneous lesions. It diffuses readily into tissue exudates, and is active in the presence of blood and pus. Neo-Polycin has an extremely low index of sensitization, and is nonirritating to tissue.

Each gram of Neo-Polycin Ointment contains 3 mg. of neomycin, 8000 units of polymyxin B sulfate and 400 units of bacitracin in the unique Fuzene base. Supplied in 15 Gm. tubes. (Also supplied as Neo Polycin-HC, containing 1% hydrocortisone acetate, in 5 Gm. tubes.)

Neo-Polycin and Neo Polycin-HC ophthalmic ointments (anhydrous, lanolin-petrolatum base) are supplied in  $\frac{1}{2}$  oz. tubes.

**PITMAN-MOORE COMPANY**

Division of Allied Laboratories, Inc.

INDIANAPOLIS 6, IND.

following the discontinuation of therapy with EDTA. High vitamin supplementation did not prevent the lesions from developing during the second course of therapy with EDTA.

The authors suggested that the lesions which developed might be associated with the high level of zinc excretion in the urine.

#### **Treatment of Acne Vulgaris and Seborrhea Capitis**

A combination of synthetic detergents, salicylic acid, micropulverized sulfur and hexachlorophene in the form of a cake and a cream was used in the treatment of 121 patients with acne vulgaris, of 6 with acne rosacea, and of 100 with seborrhea capitis. Only 4 patients were not benefited by the treatment. According to Howell in *Am.*

*Pract. and Dig. of Treat.* [8:223 (1957)] the preparations had an antibacterial effect, a drying effect to reduce oiliness, and a keratolytic effect for the removal of scales.

#### **A New Therapeutic Agent for Colonic Disorders**

Dr. Martin S. Kleckner, Department of Medicine, Yale University School of Medicine, recently observed the effects of a new postganglionic parasympathetic inhibitor, Cantil, when administered to a group of 27 patients with various intestinal disorders. The dosage was one 25-mg tablet of Cantil given four times a day. According to the Doctor, the activity of the drug is confined to the lower gastrointestinal tract; intestinal motility is decreased, and side-effects are practically nil.

---

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*one of many indications for*

high potency vitamin-mineral formula

"Generally, the more rapid and complete the nutritional rehabilitation, the shorter the convalescence."\*

MYADEC Capsules are supplied in bottles of 30, 100, 250, and 1,000.

\*Goodhart, H. S.: Vitamin Therapy Today, *M. Clin. North America* 40: 1473, 1956.

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Recommended for constipated patients of advanced age, phenolphthalein, the active ingredient of Ex-Lax, acts gently, overnight . . . "in the morning produces a stool very much like normal" <sup>1</sup> . . . continues to act as a "mild aperient for several days," <sup>2</sup> thus lessening need for frequent medication. No "adverse effects, such as tissue irritation, toxic symptoms or interference with the normal physiological functions" <sup>3</sup> were observed.

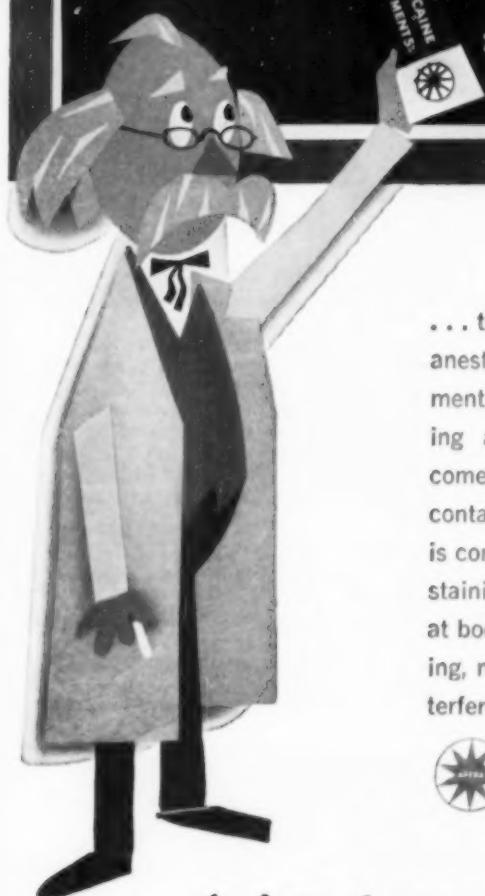
**PALATABLE**

**EFFECTIVE**

**NON-IRRITATING**

1. M. Beckman: Treatment in General Practice, p. 470, W. B. Saunders Co., 1946.
2. A. Grossman: Pharmacology and Therapeutics, p. 391, Lea & Febiger, 1954.
3. W. J. Visek, W. G. Liu, L. J. Roth: Fate of Carbon-14 Labeled Phenolphthalein. *J. Pharm. and Exp. Med.* 117:347, July 1956.

# TRACHEAL INTUBATION CRACKED NIPPLES POSTEPISIOTOMY ANAL FISSURES



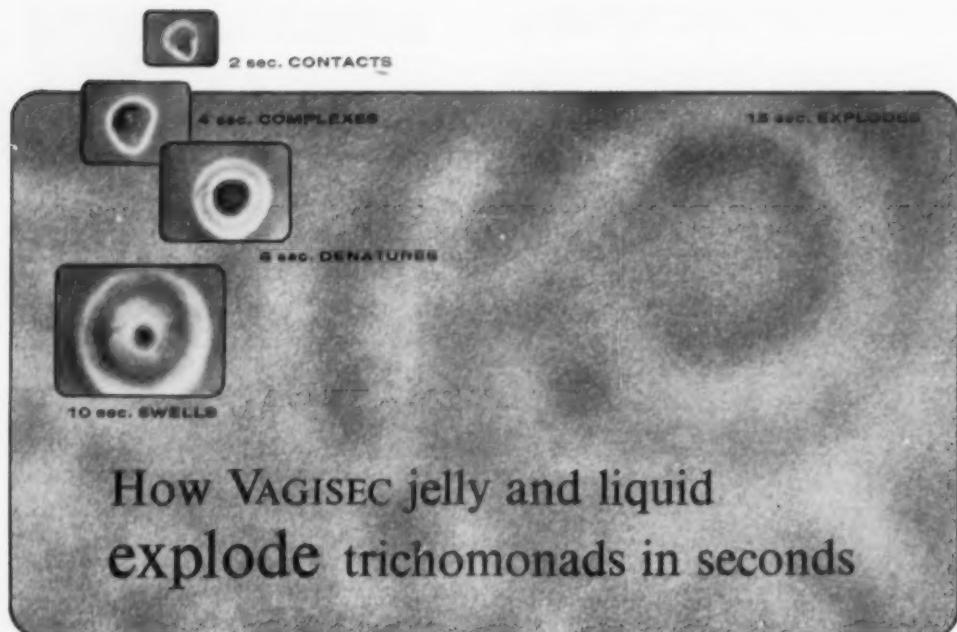
... the rapid and prolonged topical anesthetic action of Xylocaine Ointment effectively manages pain, itching and burning. The anesthetic comes into immediate and intimate contact with the tissues because it is contained in a water-soluble, non-staining vehicle which readily melts at body temperature. It is nonirritating, nonsensitizing and does not interfere with the healing processes.



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*for better doctor-patient relationship*

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Brand of lidocaine®  
\*\*\*\*\*  
**OINTMENT 5% ASTRA**



## How VAGISEC jelly and liquid explode trichomonads in seconds

**V**AGINAL trichomoniasis quickly yields to VAGISEC® liquid and jelly.<sup>1-5</sup> These unique trichomonacides *explode* flagellates after 15 seconds' contact. Following a VAGISEC douche, VAGISEC jelly maintains trichomonacidal effectiveness 'round-the-clock. With this new approach, therapy succeeds in more than 90 per cent of cases.<sup>4</sup>

**Research proves effectiveness** — In hundreds of tests with slide preparations, mixtures of VAGISEC jelly and vigorous cultures of *Trichomonas vaginalis* have been examined under a phase-contrast microscope.<sup>3,6</sup> The trichomonads *explode* and disperse within 15 seconds after contact with jelly — exactly like those in a VAGISEC douche solution.<sup>3-6</sup>

**Explosion succeeds** — VAGISEC liquid and jelly penetrate rapidly to trichomonads covered by vaginal mucus and cellular debris and *explode* them, avoiding post-treatment flare-ups.<sup>3-5</sup> VAGISEC therapy often rids stubborn clinical cases of "trich" even after other agents fail.

**Why parasites explode** — A wetting agent, a detergent and a chelating agent, combined in balanced blend in VAGISEC liquid and jelly,<sup>3-5</sup> act to weaken the parasites' cell membranes, remove waxes and lipids, and denature the protein. Then the trichomonads imbibe water, swell and explode into fragments . . . all within 15 seconds.

**The Davis technique†** — Dr. Carl Henry Davis, co-discoverer of VAGISEC, recommends a combination of office treatments with VAGISEC

liquid and 'round-the-clock home therapy with the liquid and jelly.<sup>3</sup> This regimen halts vaginal trichomonal infections and ensures continuous control until all trichomonads are gone. For a small percentage of women who have an involvement of cervical, vestibular or urethral glands, other treatment will be required.<sup>1,3-5</sup>

**Re-infections can and do occur from the husband<sup>2-5,7,8</sup>** — Prescribing RAMSES®, high quality prophylactics, as protection against conjugal contagion ensures husband cooperation. Most of them know and prefer RAMSES — the one with "built-in" sensitivity. RAMSES are superior, transparent rubber prophylactics, naturally smooth, very thin, yet strong. At all pharmacies.

Active ingredients in VAGISEC liquid: Polyoxyethylene nonyl phenol, Sodium ethylene diamine tetra-acetate, Sodium dioctyl sulfosuccinate. In addition, VAGISEC jelly contains Boric acid, Alcohol 5% by weight.

**References:** 1. Decker, A., and Decker, W. H.: Practical Office Gynecology, Philadelphia, F. A. Davis Company, 1956. 2. McGoogan, L. S.: J. Michigan M. Soc. 55:682 (June) 1956. 3. Davis, C. H. (Ed.): Gynecology and Obstetrics (revision), Hagerstown, W. F. Prior, 1955, vol. 3, chap. 7, pp. 23-33. 4. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955. 5. Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955. 6. Molonut, N., Port Washington, N. Y.: Personal communication (Jan.) 1957. 7. Draper, J. W.: Internat. Rec. Med. 168:563 (Sept.) 1955. 8. Feo, L. G., et al.: J. Urol. 75:711 (Apr.) 1956.

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*gynecological division*

423 West 55th Street, New York 19, N. Y.

VAGISEC and RAMSES are registered trade-marks of Julius Schmid, Inc.

†Pat. app. for

**A brighter outlook comes  
with a "sense of well-being"**



Every woman who suffers in the menopause deserves "Premarin." "Premarin" provides prompt relief from distressing symptoms and an added "sense of well-being."

"Premarin," available as tablets and liquid, presents the complete equine estrogen-complex. Has no odor, imparts no odor.

**"PREMARIN"®**

Conjugated estrogens (equine)

**in the menopause and  
the pre-and postmenopausal syndrome**



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# NEWS AND NOTES

## Alumni Hall Added to New York University-Bellevue Medical Center

For the New York University-Bellevue Medical Center, February 22 is not only Washington's Birthday but Alumni Day as well. In 1956, the day included ground-breaking ceremonies for Alumni Hall. In 1957, the Alumni Day program was culminated by the laying of the cornerstone for the new structure. At an estimated cost of a million and a half dollars, the gifts of alumni and others, Alumni Hall constitutes a focal part of the architectural concept of the entire New York University-Bellevue Medical Center. The two-story building will be located at the foot of 31st Street, and will contain an auditorium and several lecture rooms provided with modern equipment. This is the fourth building of a thirty-two million dollar development. A hospital, now in the planning stage, will complete the medical center.

## Millard Fillmore Hospital

Because homeopathic physicians were denied the privileges of the two hospitals in Buffalo, a committee was formed to raise funds, and, in 1872, the Buffalo Homeopathic Hospital was granted a certificate of incorporation. The hospital was opened in the former Evans

home, and its capacity was three beds. The years brought demands for additional space, and adjacent dwellings were occupied. A Nurses Training School, the second to be established, was started in 1887.

In 1908, the present site was chosen and the first building of the present plant was erected; its bed capacity was 116 patients. A complete change in policy, in 1923, brought allopathic physicians to the staff. At the same time, a distinguished resident who had served as president of the United States more than 70 years earlier was honored, and the institution became the Millard Fillmore Hospital. The advancing years saw continued expansion and progress. Additional adjoining properties were acquired, and five new sections have been erected. The total bed capacity

in anogenital pruritus



and many other skin disorders

use new **Vioform®**  
**Hydrocortisone**  
**Cream**

antibacterial  
antifungal  
anti-inflammatory  
antipruritic

Tubes of 5 and 20 Gm.  
VIOFORM® (iodocholehydroxyquin CIBA)

C I B A SUMMIT, N. J.

2746298

*See page following 34a  
for actual clinical demonstration*

exceeds the original number by 560 beds and 119 bassinets.

Special departments and activities have kept pace with the best modern hospital procedure. In 1930, the very active Out-patient Department began operation. In 1946, a Graduate Medical Education program was instituted for the teaching of interns and residents, and the following year saw affiliation with the University of Buffalo and undergraduate teaching of medical students at the Hospital. More recently, much new equipment has been put into operation, and the Departments of Publication and Research; the Endocrine Laboratory; the Pulmonary Function Laboratory, and the Radiation Biology Department are now part of the institution. In 1955, 83 years after its founding, 19,303 patients were admitted and

12,147 operations were performed. One of the largest maternity services in the United States had 4,774 deliveries.

#### UNIVERSITY OF PENNSYLVANIA

The University of Pennsylvania is the recipient of grants totaling \$550,000 from the US Public Health Service to assist in the construction of health research facilities. One grant of \$400,000 was made toward the construction of a new research laboratory wing on the School of Medicine building and for research facilities in two other new medical structures. These are a part in the initial steps in a comprehensive long-range program for the extension and integration of research facilities in the health sciences at the University.

—Continued on following page

prepare your "over-forty" patient for his future...



# ELDEC Kapseals

mineral-vitamin-hormone supplement

to aid in maintaining nutritional and hormonal efficiency



/available in bottles of 100

PARKER, DAVIS & COMPANY - DETROIT 32, MICHIGAN

to normalize



prescribe

## L. A. Formula

No laxative works properly unless the colon is supplied with sufficient non-irritating bulk of medium soft consistency to promote a more normal peristaltic pattern.<sup>1</sup> L. A. FORMULA provides just such an effective, smooth bulk.

In most instances, L. A. FORMULA by itself insures regular easily passed stools that are associated with a minimum of peri-anal soiling.<sup>2</sup>

But regardless of what laxative you prescribe—lubricant, mucosal irritant, or other type of bowel stimulant—a moist, smooth bulk is still essential to normal evacuation.<sup>3</sup>

That's why we say—to normalize

## prescribe . . . L. A. Formula

either alone, or  
with the laxative of your choice

\* \* \*

### References

1. Dolkart, R. E., Dentler, M., & Barrow, L. I., *III. Med. J.*, 90:296, 1946
2. Cast, I. J., & Wolf, I. P., *Gastroenterology*, 20:149, 1952
3. Wozasek, O., & Steigman, F., *Am. J. Digest. Dis.*, 9:423, 1942



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*Originators of Fine Hydrophilic Colloids*

WASHINGTON 2, D. C.

## NEWS AND NOTES

—Continued from preceding page

Total cost of this research construction will be \$3,200,000 of which one-half is expected to be borne by the Federal Government over a three-year period.

### Many Avoid Medical Care Because of Fear, Lethargy

While lack of money causes some persons to stay away from doctors and medical care, just as many avoid medical care because they are either afraid or unwilling to go to the trouble of seeking it, George Bugbee, President of the Health Information Foundation, said in a recent speech.

"Except in time of acute illness," Bugbee said, "a great many people in the upper as well as the lower income brackets do not take advantage of the procedures which physicians can employ not only to detect and arrest illness in its earliest stages but also to reduce disability and even extend life."

Bugbee is a member of the Board of Directors and Chairman of the Master Plan Committee of the Hospital Council of Greater New York as well as President of the Foundation.

Bugbee based his statements on a current Foundation study of patient-physician relations. The Foundation is a research and planning organization sponsored by the drug, pharmaceutical, chemical, and allied industries in the interests of better health.

Speaking of the cost of medical care, Bugbee said persons who carry some voluntary health insurance spend more for medical care beyond the services covered by their insurance than persons

—Continued on page 162a

**FIRST...the master key  
to successful  
antifungal therapy...**



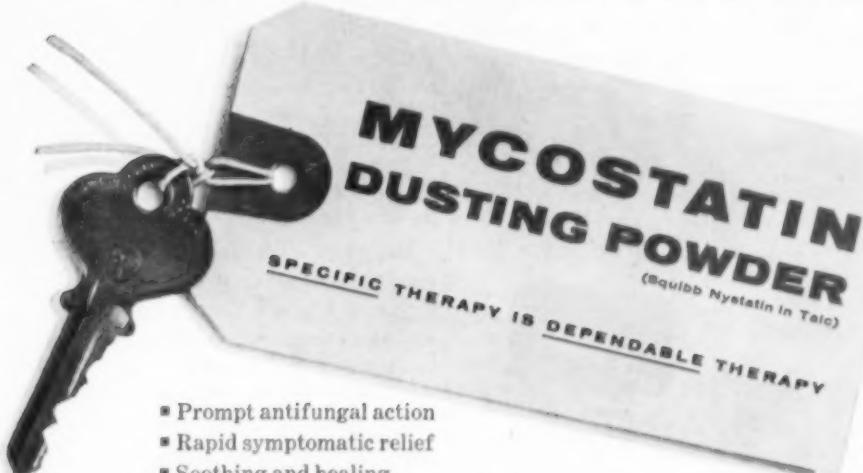
## **MYCOSTATIN**

(Squibb Nystatin)

**SPECIFIC FOR LOCALIZED  
CANDIDA ALBICANS INFECTIONS**

**NOW...another special key to therapeutic response...**

particularly formulated for *Candida albicans* infections of the skin manifested as *diaper rash*, *genitocrural eruptions*, *intertrigo* and *interdigital lesions*, including athlete's foot.



- Prompt antifungal action
- Rapid symptomatic relief
- Soothing and healing
- Virtually nontoxic and nonsensitizing
- Extremely well tolerated
- Easy to apply

*Therapy schedule:* Each gram of purified talc base contains 100,000 units of Mycostatin. Apply Mycostatin Dusting Powder directly to mycotic lesions two or three times daily until healing is complete. In athlete's foot, dust freely on feet and in shoes and socks or hose.

*Supply:* One-half ounce plastic squeeze bottles. Stable for 24 months at room temperature.

*Also available:* Mycostatin Vaginal Tablets, Mycostatin For Suspension, Mycostatin Ointment, Mycostatin Oral Tablets.

**SQUIBB**



*Squibb Quality—the Priceless Ingredient*

MYCOSTATIN® IS A SQUIBB TRADEMARK

## NEWS AND NOTES

—Continued from page 160a

without insurance spend in total for medical care.

The Foundation's current study is designed to determine which groups of people are unwilling or unable to expose themselves to medical care.

"It was our opinion that the survey finding which showed the uninsured using so much less medical care than the insured could not be explained fully in terms of personal resources for purchasing such care," Bugbee said.

He reported that 80 per cent of the persons interviewed said they believed a regular physical checkup every year or so is a good idea. But only a small percentage claimed to have an annual examination, he said.

Thirteen per cent said they never had

a general physical checkup and 24 per cent said they had not had a physical examination in the last five years.

Growth of the nation in population, income, and average health "should all serve to increase the benefits of modern medical science," Bugbee said. "They are intricately interwoven and can scarcely be considered separate entities, as they sometimes are by the uninformed who would unwisely delegate some elemental responsibilities to government."

### Brain Function Studies

From the Hillside Hospital, Glen Oaks, New York, comes the announcement that Dr. M. Fink has been awarded a three-year grant of \$54,000 by the National Institute of Mental Health of the U. S. Public Health Service to continue his studies of altered brain function following electroshock.

### Vitamin Foundation Addressed by Dr. Zucker

Dr. T. F. Zucker of Columbia University, in speaking at a Meeting of the National Vitamin Foundation, used as his topic the production of duodenal ulcers, and the possibility that a deficiency of one of the B-complex vitamins, pantothenic acid, was a causative factor in their occurrence.

### International Conference on Diabetes

Dr. Auguste Loubatieres, of France, a pioneer in the search for an oral method of treating diabetes, was a speaker at an international conference on diabetes held recently in New York. He discussed the use of sulfonylurea

—Continued on page 164a

GO  
PREPARED

*Americaine*  
Topical Anesthetic Ointment and Aerosol

Bring prompt, sustained relief from surface pain and itching of

SUNBURN                    INSECT BITES  
POISON IVY              ABRASIONS  
ECZEMAS

DOCTOR, For Your Vacation  
Send for complimentary vacation  
package

ARNAR-STONE LABORATORIES, INC.,  
Mount Prospect, Ill.

HERE IS  
A COMPLETELY

New  
**SANBORN**  
electrocardiograph



... the eighteen pound, transistorized model **300** *VISETTE*

For the clinical accuracy your heart practice demands... and a degree of portability never before approached in the field of cardiography... this new Sanborn instrument offers a truly remarkable answer.

In the *VISETTE* you will find outstanding Sanborn quality and performance, achieved through the latest electronic techniques and the most modern principles of instrumentation. Tiny transistors largely replace bulky vacuum tubes... entire circuits are contained in plug-in printed wiring panels no larger than a playing card... cardiograms are clearly traced on chart paper in a new, convenient width. Innovations such as these have also made possible economies in production, reflected in the comparably lower price of the new 300 *VISETTE*.

Every design feature, every component in this modern instrument, serves a single purpose: clinically accurate 'cardiograms

with the greatest possible convenience. The "Sanborn man" is or near your city can provide complete details, and a demonstration in your office if you wish. And of course you may try a *VISETTE* (as you can other Sanborn instruments) — before buying, without cost or obligation.

To those who already own the famous Model 51 Viso-Cardiette, the new *VISETTE* can be an invaluable "companion" ECG — especially suited to use outside the office, or in hospital wards. Or, for those who prefer a larger instrument, using conventional 6 cm. width recording paper, the "51" is still available at \$785 delivered.

**S A N B O R N  
C O M P A N Y**  
WALTHAM 54, MASS.



## NEWS AND NOTES

—Continued from page 162a

compounds, but stressed the fact that a favorable response appeared to depend upon the quantity of active insulin-producing cells in the pancreas and the amount of insulin in the body.

### Accidents in the Home

Of emergencies reported by hospitals in San Francisco which were the result of accidents in the home, one-third happened to children under four years of age, and more than half occurred to children under fourteen. The chief types of accidents were falls down stairs or from furniture; striking against objects; swallowing medicines not intended for

them; being caught in doors or household machines, and scalds from hot fluids. The survey was conducted by the California Home Safety Project and the San Francisco City-County Health Department.

### National Society for the Prevention of Blindness Awards

• The National Society for the Prevention of Blindness has awarded a sum of \$4,000 to the University of Nebraska College of Medicine for a research project, *Adrenocorticoid Function in Relation to Diabetic Retinitis*.

• The Wills Eye Hospital of Philadelphia, is the recipient of an award of \$3,000 for a research project on choroidal circulation.

—Continued on page 166a

## POWER

FOR PEAK  
THERAPEUTIC  
PERFORMANCE

## EXPASMUS®

Potentiated Mephenesin\*

For relief of low back pain and other arthritic pain,  
for release of tension accompanying pain.

- Relieves pain
- Soothes tension
- Relaxes muscle spasm

Each EXPASMUS tablet contains:  
Dibenzyl succinate 125 mg., mephenesin 250 mg., salicylamide 100 mg.

Request reprints and samples.

**Martin H. Smith Co.** 131 East 23rd St., New York 10, New York

Manufacturers of ethical products for over half a century



\*Mephenesin physiologically poten-sified with a smooth muscle relaxant and analgesic . . . dibenzyl succinate

**Dosage:** 2 to 3 tablets 3 times daily to 12 tablets daily.

**Supplied:** Bottles of 100's tablets



# Nothing to Hide but **PSORIASIS**

RIASOL has made many an embarrassed woman proud to wear a revealing bathing suit. By clearing the ugly patches of psoriasis, it leaves a normal healthy skin for admiring eyes.

It is well known that exposure to abundant sunlight at the beaches is beneficial in psoriasis. Few patients, however, will expose themselves to curious and critical eyes until the skin patches have been controlled with RIASOL.

RIASOL acts best when the treated parts are also exposed to direct sunlight. For this reason it is advisable to treat all cases of psoriasis intensively during the summer months.

Medical statistics show that favorable results are obtained in approximately 76% of all cases of psoriasis treated with RIASOL.

RIASOL contains 0.45% mercury chemically combined with soaps, 0.5% phenol and 0.75% cresol in a washable, non-staining, odorless vehicle.

Apply daily after a mild soap bath and thorough drying. A thin, invisible, economical film suffices. No bandages required. After one week, adjust to patient's progress.

Ethically promoted RIASOL is supplied in 4 and 8 fld. oz. bottles at pharmacies or direct.



BEFORE USE OF RIASOL



AFTER USE OF RIASOL

## Test RIASOL Yourself

May we send you professional literature and generous clinical package of RIASOL. No obligation. Write

## SHIELD LABORATORIES

Dept. MT-657

12850 Mansfield Avenue, Detroit 27, Michigan

# RIASOL FOR PSORIASIS

## NEWS AND NOTES

—Continued from page 164a

● The New York University—Bellevue Post Graduate Medical School received a grant of \$2,000 for research study on pancreatic dornase in inflammatory ocular exudates.

● With a grant of \$2,500, The Washington University School of Medicine at St. Louis will conduct a research project on the photocoagulation of the retina.

● The Medical College of Georgia at Augusta, received \$2,000 for research work on the bacteriology of uveitis.

### Dr. Gaeth Assumes New Activities in Speech and Hearing

John H. Gaeth, Ph.D., formerly of Northwestern University, has been appointed Professor of Speech and Direc-

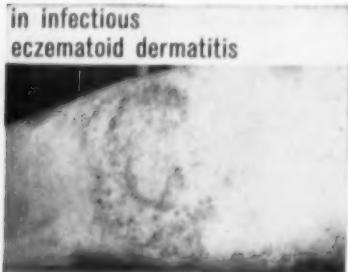
tor of the Hearing Clinic at Wayne State University, Detroit. In addition to the Wayne Clinic, he will teach the savings of hearing in schools, hospitals, and related organizations.

### Postgraduate Education in Preventive Medicine and Public Health

In response to demands for training designed to prepare candidates to teach preventive medicine, the Harvard School of Public Health has organized a special interdepartmental and interuniversity program. The students must have had sufficient training in clinical medicine to enable them to deal authoritatively with certain diseases or specific fields. The curriculum consists of courses in ecology, biostatistics, epidemiology, communicable diseases, sanitary engineering, and electives in various fields.

In the preventive medicine residency program, the resources and staff of de-

—Continued on page 168a



in infectious  
eczematoid dermatitis  
and many other skin disorders  
use new **Vioform®-  
Hydrocortisone  
Cream**

antibacterial  
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anti-inflammatory  
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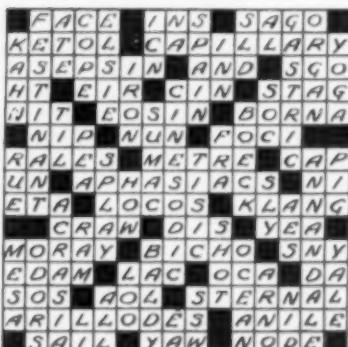
Tubes of 5 and 20 Gm.  
VIOFORM® (Iodochlorhydroxyquin CIBA)

C I B A SUMMIT, N.J. 07901

See page following 34a  
for actual clinical demonstration

### MEDICAL TEASERS

Solution to puzzle on page 37a



MEDICAL TIMES



*to minimize  
morning joint stiffness...*

## **PERSISTIN\***

Night-long salicylate therapy with a single dose of Persistin at bed-time helps prevent "joint jelling" in arthritic patients.

Each Persistin tablet contains acetylsalicylic acid  $2\frac{1}{2}$  gr. (160 mg.) and salicylsalicylic acid  $7\frac{1}{2}$  gr. (480 mg.). The latter ingredient is slowly absorbed and eliminated for prolonged salicylate action up to 8 hours.

Complete dosage information in PDR . . . bottles of 90 tablets

*Samples and literature on request*

*Sherman Laboratories*

Detroit 11, Michigan

\*Trademark—Pat. Pend.

## NEWS AND NOTES

—Continued from page 166a

partments in several medical schools will be available in the initial phases of the program.

### Appointment of Dr. E. J. Levin

Dr. Emanuel J. Levin, former Associate Professor of Radiology at the University of Cincinnati College of Medicine and Radiology at the Cincinnati General Hospital, now occupies the joint posts of Professor of Radiology at the State University of New York Downstate Medical Center and of Director of Radiology at Maimonides Hospital; both institutions are in Brooklyn, New York. Dr. Levin will direct the teaching of medical students, and participate in the

residency training program at the Hospital.

### Apparatus to Test Vision of Infants

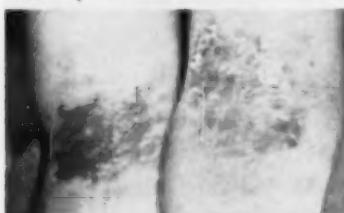
The Beth Israel Hospital and the Massachusetts Eye and Ear Infirmary of Boston, have been granted \$1,500 by the National Society for the Prevention of Blindness for a research project on the development of effective apparatus to test vision in early infancy by means of optico-kinetic response.

### International Ophthalmological Congress

The eighteenth International Ophthalmological Congress will be held in Brussels September 8-12, 1958. The Congress will celebrate the centennial anniversary of its first meeting in 1857. The International Association for the Prevention of Blindness and the International Organization against Trachoma will hold meetings during the Congress.

—Continued on page 170a

in atopic eczema



and many other skin disorders

use new **Vioform®**  
**Hydrocortisone**  
**Cream**

antibacterial  
antifungal  
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Tubes of 5 and 20 Gm.

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See page following 34a  
for actual clinical demonstration

168a

### Diagnosis, Please!

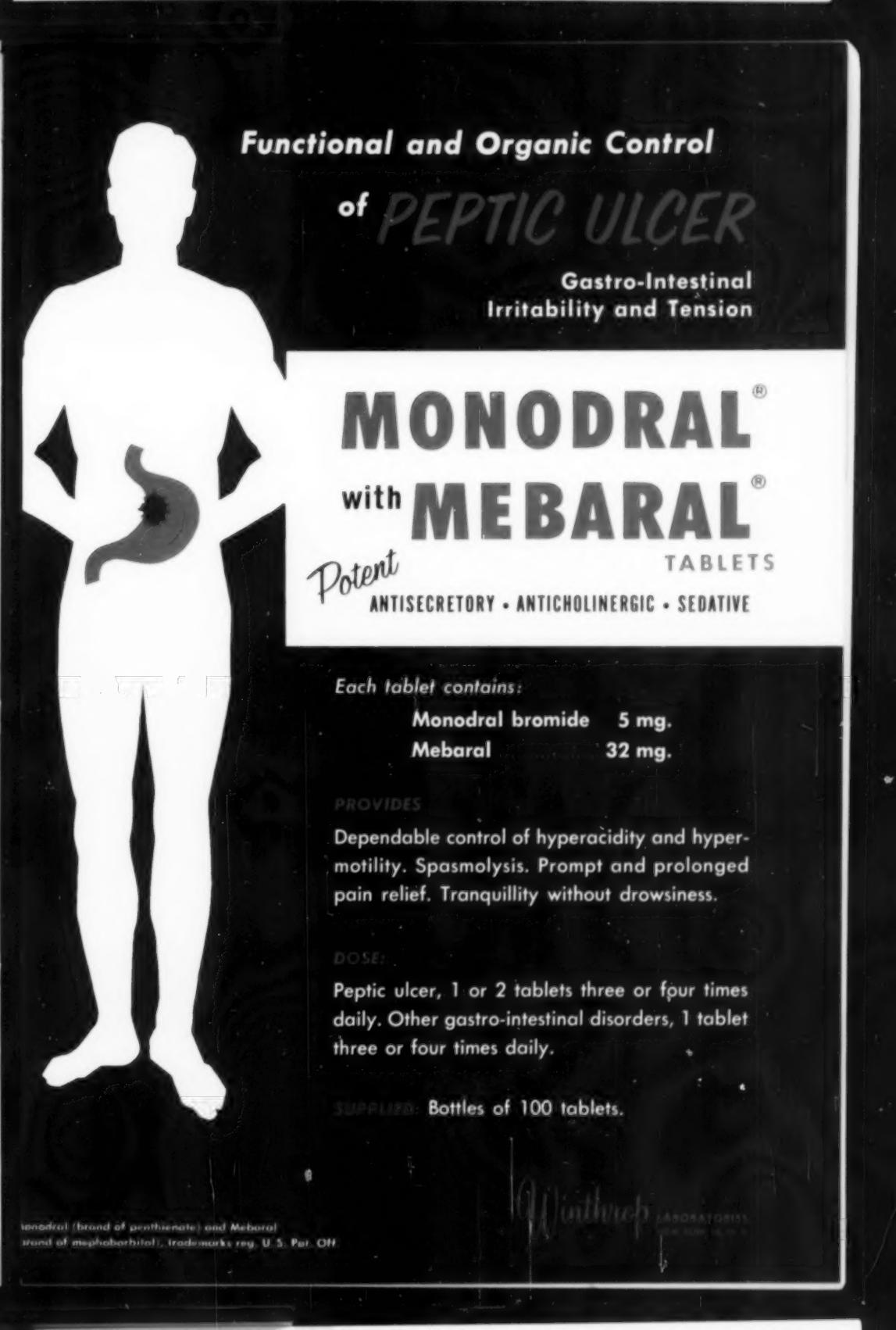
#### ANSWER

(from page 25a)

#### OSTEOCONDENSING ILLIUM BILATERAL

Note condensing change in the iliac aspects of both sacro-iliac joints. Due to the overlapping one might expect the sacrum to be involved. This can be excluded by oblique views. Note normalcy of the joints.

MEDICAL TIMES



Functional and Organic Control  
of **PEPTIC ULCER**

Gastro-Intestinal  
Irritability and Tension

**MONODRAL®**  
with **MEBARAL®**

*Potent*

TABLETS

ANTISECRETORY • ANTICHOLINERGIC • SEDATIVE

Each tablet contains:

Monodral bromide 5 mg.  
Mebaral 32 mg.

**PROVIDES**

Dependable control of hyperacidity and hypermotility. Spasmolysis. Prompt and prolonged pain relief. Tranquillity without drowsiness.

**DOSE:**

Peptic ulcer, 1 or 2 tablets three or four times daily. Other gastro-intestinal disorders, 1 tablet three or four times daily.

**SUPPLIED:** Bottles of 100 tablets.

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(brand of meghobarbital), trademarks reg. U. S. Pat. Off.

Protective  
Coating  
with

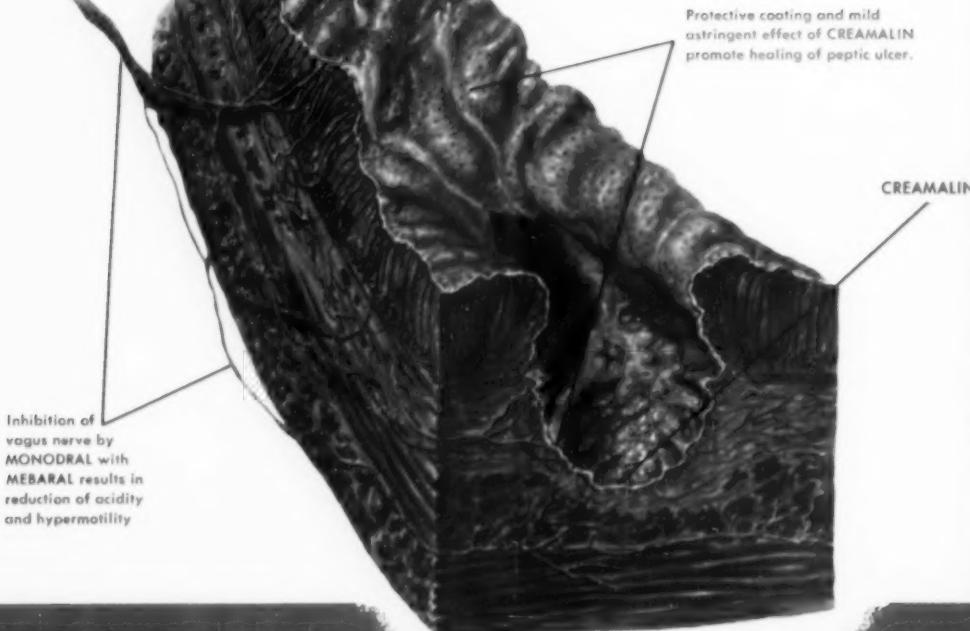
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FAST ACTING REACTIVE GEL

For best results in **PEPTIC ULCER**

Prescribe **Monodial®-Mebaral®** tablets  
in conjunction with **Creamalin**



**DOSE:**

From 2 to 4 teaspoonfuls Creamalin liquid or from 2 to 4 Creamalin tablets (well chewed) every two to four hours, with a small amount of water or milk.

**Creamalin liquid** — 8 and 16 fl. oz.  
**Creamalin tablets** — bottles of  
50 and 200.

Creamalin (brand of aluminum hydroxide gel), Monodial (brand of pethidine), and Mebaral (brand of mephenesin), trademarks reg. U. S. Pat. Off.

**Winthrop** LABORATORIES  
NEW YORK 10, N. Y.

## TO "NORMALIZE" THE THINKING PROCESSES\*

**AN ADVANCE** in the treatment of mental and emotional disorders, Pacatal overcomes many of the disadvantages inherent in the earlier phenothiazine compounds.

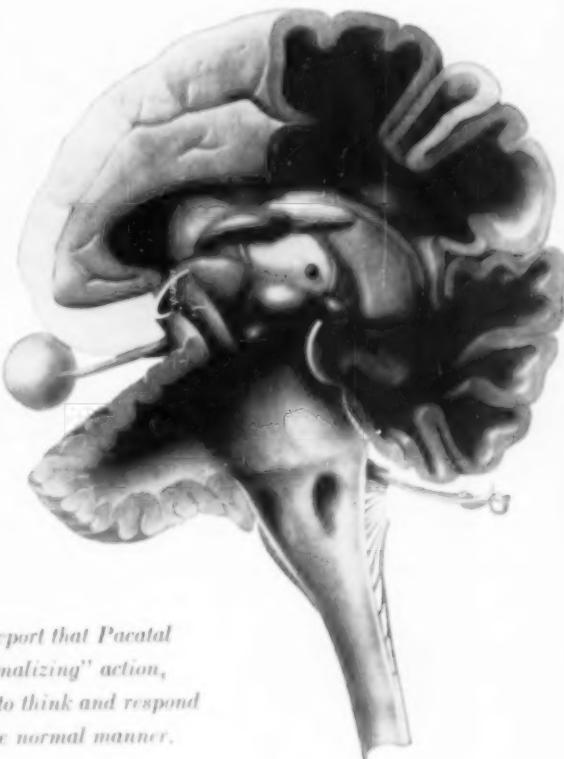
**TRANQUIL, YET RESPONSIVE:** With Pacatal, patients are calmed, yet they remain alert, active and cooperative. Pacatal does not "flatten" the patient.

**FEWER SIDE EFFECTS:** Pacatal has fewer side effects at recommended dosage levels. Atropine-like effects may occur in some patients, but tend to disappear with continued therapy.

**DOSAGE:** Usual dosage for the ambulant patient is 25 mg. 3 or 4 times daily; for the hospitalized patient, 50 mg. 3 or 4 times daily. *Complete literature and dosage instructions (available on request) should be consulted.*

**SUPPLIED:** 25 and 50 mg. tablets in bottles of 100 and 500. Also available in 2 cc. ampuls (25 mg./cc.) for parenteral use.

*\*Many investigators report that Pacatal seems to have a "normalizing" action, i.e., patients appear to think and respond emotionally in a more normal manner.*



**WARNER-CHILCOTT**  
100 YEARS OF SERVICE TO THE MEDICAL PROFESSION

**NEW**

# PACATAL<sup>®</sup>

(BRAND OF MEPAZINE)

## NEWS AND NOTES

—Continued from page 168a

### Scientist from India at Chicago Medical School

Dr. Anil K. Bhattacharya of the University of Calcutta, on temporary leave from his teaching post at the Surendra Nath College, Calcutta, is presently on the staff of the Chicago Medical School as a research associate in the Department of Biochemistry. He attained prominence in his native India by the isolation and purification of a new alkaloid from plants with which the aborigines poisoned their arrows. While in Chicago, the Doctor will conduct research on ragweed pollen in an endeavor to

isolate the factor responsible for hay fever or allergy. He will also study radioactivity.

### Easter Seal Research Foundation Grants

Three long-range research projects in rehabilitation will receive grants totaling \$51,300 from the Easter Seal Research Foundation. Two of the projects will seek to improve the effectiveness of bone grafts in orthopedic surgery. The third will attempt to determine physiological causes of stuttering.

Dr. W. T. Sanger, Chancellor of the Medical College of Virginia, and Chairman of the Foundation's Board of Trustees, announced the awarding of funds

—Continued on page 172a



## IN IMPOTENCE

In a recent study (1) coitus was made possible in 85% of 67 cases of impotency with the use of 1 cc. of GLUKOR intramuscularly twice weekly, and maintained once weekly or as little as once monthly.

GLUKOR has also been found valuable in the male climacteric, male senility, angina pectoris, coronary thrombosis and other conditions associated with gonadal decline. GLUKOR may be used regardless of age and/or pathology, without side reactions. There are no contraindications. Antagonism with any other drug has not been observed.

1. Gould, W. L.: Impotence, M. Times 84:302 (March) 1956

## GLUKOR®

Each cc. contains: ~200 I.U. chorionic gonadotropin, 25 mg. thiamine HCl, 52.5 p.p.m. L(+)-glutamic acid, 0.5% chlorobutanol and 1% procaine HCl.

Available in 10 cc. and 25 cc. multiple-dose vials.

RESEARCH SUPPLIES • ALBANY, NEW YORK

105

\*Reg. U. S. Pat. Off. Patent Pending

Also available.—An analogous preparation for the female—GLUTEST  
... effective in refractory cases where other therapy fails.

# drug-induced constipation... a recurrent problem

"antispasmodics, anticholinergics and  
hypotensive agents have a definite  
constipating effect."<sup>1</sup>

"Constipation . . . can be a serious  
drawback to the use of any  
ganglionic blocking agent."<sup>2</sup>

Olson<sup>3</sup> reports that patients in a controlled study, suffering from drug-induced constipation, were able to continue medication when Veracolate was administered at the same time. His patients "found Veracolate satisfactory therapy at a t.i.d. dosage", and were able to re-establish and maintain regular bowel habits despite the constive influence of other drugs. Patients whose constipation was due to other causes, also responded very favorably to Veracolate, the physiologically-active laxative.

---

1. Hootnick, H. L.: *J. Am. Geriatrics Soc.* 4:1021 (Oct.) 1956. 2. Moyer, J. H.: *GP* 15:109 (Feb.) 1957. 3. Olson, J. A.: Personal communications.

## VERACOLATE®

FOR DRUG-INDUCED CONSTIPATION

STANDARD LABORATORIES, INC. • MORRIS PLAINS, N. J.

## NEWS AND NOTES

—Continued from page 170a

to investigators at Western Reserve University School of Medicine, University of Mississippi Medical Center, and the State University of Iowa.

### Proposed Review of Periodic Health Examinations

The W. K. Kellogg Foundation of Battle Creek, Michigan, has made a five-year commitment of \$401,515 to the University of Pennsylvania School of Medicine for the testing and improving of the periodic health examination as an instrument for the early detection of disease and the promotion of health. It is believed that the merits and limitations of the periodic medical examination for presumably well persons should be reappraised and components for a

new examination developed that may be used in population groups of varying size and financial status.

### Duke Hospital Increases Facilities under L. R. Jordan

At Duke Hospital, Durham, N. C., L. R. Jordan has been named as Director of the Out-patient Department which is to be re-organized in preparation for moving to new quarters. The Out-patient Department will occupy the first three floors of a seven-story addition to the hospital which was erected at a cost of \$3,386,000.

### Dr. Mollari Honored by International Society

Dr. Mario Mollari, Professor and Chairman of Bacteriology and Immunology at the Georgetown University Medical Center, Washington, D. C., and

—Continued on page 175a

ideal...  when dermatoses are in bloom

# NEO-MAGNACORT\*

neomycin and ethamycin

topical ointment

### NEOMYCIN + the first water-soluble dermatologic corticoid

*outstanding availability, penetration, therapeutic concentrations and potency — without systemic involvement.* In 1/2-oz. and 1/6-oz. tubes, 0.5% neomycin sulfate and 0.5% ethamycin (MAGNACORT).

for inflammation without infection **MAGNACORT** topical ointment  
brand of ethamycin

In 1/2-oz. and 1/6-oz. tubes, 0.5% ethamycin (hydrocortisone ethamate hydrochloride).

**PFIZER LABORATORIES**



Division, Chas. Pfizer & Co., Inc., Brooklyn 6, New York

\*Trademark

# Rauwiloid®

## A Better Antihypertensive

"We prefer to use

### alseroxylon (Rauwiloid)

since it is less likely to produce excessive fatigue and weakness than does reserpine.<sup>1</sup> Up to 80% of patients with mild labile hypertension and many with more severe forms are controlled with Rauwiloid alone.

1. Moyer, J.H.: J. Louisiana M. Soc. 108:231 (July) 1956.

### A Better Tranquilizer, too

"...relief from anxiety resulted in generally increased intellectual and psychomotor efficiency with a few exceptions."<sup>2</sup> Rauwiloid is outstanding for its *nonsoporific* sedative action in a long list of unrelated diseases not necessarily associated with hypertension but burdened by psychic overlay.

2. Wright, W.T., Jr., et al.: J. Kansas M. Soc. 57:410 (July) 1956.

**Dosage:** Merely two 2 mg. tablets at bedtime. After full effect one tablet suffices.

**Best first step when more potent drugs are needed**

Rauwiloid is recognized as basal medication in all grades and types of hypertension. In combination with more potent agents it proves synergistic or potentiating.

#### Rauwiloid®+Veriloid®

In moderate to severe hypertension this single-tablet combination permits long-term therapy with dependably stable response. Each tablet contains 1 mg. Rauwiloid (alseroxylon) and 3 mg. Veriloid (alkavervir). Initial dose, 1 tablet t.i.d., p.c.

#### Rauwiloid®+

#### Hexamethonium

In severe, otherwise intractable hypertension this single-tablet combination provides smoother, less erratic response to hexamethonium. Each tablet contains 1 mg. Rauwiloid and 250 mg. hexamethonium chloride dihydrate. Initial dose,  $\frac{1}{2}$  tablet q.i.d.

*Riker Laboratories*

just one

tablet t.i.d.



for your aging patients

may mean the difference between comfort and complaint

**DECHOLIN®**  
"therapeutic bile"

**routine physiologic support**

- improves liver and gallbladder function
- corrects constipation without catharsis
- relieves functional complaints of gastrointestinal tract
- enhances medical regimens in hepatobiliary disorders

DECHOLIN Tablets 3½ gr. (dehydrocholic acid, AMES) and

DECHOLIN SODIUM® Ampuls 20% Solution (sodium dehydrocholate, AMES)



AMES COMPANY, INC • ELKHART, INDIANA

Ames Company of Canada, Ltd., Toronto

23699

## NEWS AND NOTES

—Continued from page 172a

a member of the faculty for 33 years, has recently been elected Vice-president of the International Society for the Study of Infectious Diseases, Parasitology and Immunology.

### Award to American Hospital Association

The American Hospital Association is moving into the clinical research field. This organization, which represents the bulk of community hospitals in the United States has received a Public Health grant of \$575,000 to evaluate the effectiveness of drugs in treating heart diseases. Because a grant must be awarded to an individual, the grantee was A. E. Treloar, Ph.D., Director of Research for the American Hospital Association. He was formerly with the University of Chicago.

### University of South Dakota

• Second-year medical students at the University of South Dakota are learning to apply their book-learning in the actual diagnosis of disease—thanks to the cooperation of both doctors and patients at three Sioux Falls hospitals.

Sophomore students from the School of Medicine spend their Saturday mornings at the cooperating institutions, the Sioux Valley Hospital, McKennan Hospital and the Royal C. Johnson Veterans Hospital, where they examine patients under the direct supervision of the patients' own doctors.

"The program gives the students their first opportunity to apply basic knowledge in the diagnosis of disease," says Dr. Walter L. Hard, dean of the School of Medicine.

(Vol. 85, No. 6) June 1957

The students, who work in groups of two or three, are assigned to surgery, medicine, obstetrics, pediatrics or neurology, and come in contact with an average of 20 doctors and an equal number of patients during each period.

Dean Hard said an important objective of the program is to help bridge the gap between the student's first two years in the University's School of Medicine and work at some other medical school in the student's junior year.

"Proper diagnosis is obviously a first fundamental in the successful practice of medicine," he said. "For this reason, the students are introduced to this type of training early in their educational career."

The program also has proved popular among the 36 students who make the

—Continued on page 178a

in chronic  
eczematous dermatitis



and many other skin disorders

use new **Vioform®**  
**Hydrocortisone**  
**Cream**

antibacterial  
antifungal  
anti-inflammatory  
antipruritic

Tables of 5 and 20 Gm.  
VIOFORM® (Diodo-Hydrocortisone CIBA)

C I B A SUMMIT, N. J.

174/380

*See page following 34a  
for actual clinical demonstration*

175a

# NEW...



Each Multiple Compressed Tablet of **MEPROLONE** provides the inseparable antiarthritic, antirheumatic benefits of:

1. *Prednisolone buffered*—the newest and most potent of the "predni-steroids" for prompt relief of joint pain and arrest of the destructive inflammatory process.

2. *Meprobamate*—the newest and safest of the muscle-relaxant tranquilizers for profound relaxation of skeletal muscle in spasm.

Tolerance to this combination is good because there is little likelihood of sodium retention, potassium depletion or gastric distress with buffered prednisolone, and meprobamate rarely produces significant side effects in therapeutic dosage.

An additional important therapeutic benefit, often overlooked, stems from the tranquilizing action of meprobamate. This component of **MEPROLONE** relieves mental tension and anxiety so often manifest in arthritics, making them more amenable to other rehabilitation measures.

**INDICATIONS:** A wide variety of conditions, in which four symptoms predominate: a) inflammation b) muscle spasm c) anxiety and tension d) discomfort and disability; i.e., rheumatoid

Therapeutic benefits of **MEPROLONE** compared with traditional antiarthritics.

	relieves pain	suppresses inflammation	relaxes muscle	eases anxiety	imparts sense of well-being
Salicylates	✓	✓			
Muscle relaxants			✓		
Tranquillizers				✓	
Steroids	✓	✓			✓
<b>MEPROLONE</b>	✓	✓	✓	✓	✓

*1. Meprobamate is the only tranquilizer with muscle-relaxant action.*

arthritis, rheumatoid spondylitis (Marie-Strümpell disease), Still's disease, psoriatic arthritis, osteoarthritis, bursitis, synovitis, tenosynovitis, myositis, fibrosis, fibromyalgia, neuritis, acute and chronic low back pain, acute and chronic primary and secondary fibrosis and torticollis, intractable asthma, respiratory allergies, allergic and inflammatory eye and skin disorders (as maintenance therapy in disseminated lupus erythematosus, periarthritis nodosa, dermatomyositis and scleroderma).

**SUPPLIED:** Multiple Compressed Tablets in bottles of 100 in two formulas as follows: **MEPROLONE-1**—1.0 mg. of prednisolone, 200 mg. of meprobamate and 200 mg. of dried aluminum hydroxide gel. **MEPROLONE-2**—provides 2.0 mg. of prednisolone in the same formula.

NO OTHER  
ANTIRHEUMATIC  
PRODUCT  
PROVIDES AS MANY  
BENEFITS AS

# PROLONE'

MEPROBAMATE  
PREDNISOLONE, buffered

THE ONLY  
ANTIRHEUMATIC,  
ANTIARTHRITIC  
THAT SIMULTANEOUSLY  
RELIEVES:  
1. MUSCLE SPASM  
2. JOINT INFLAMMATION  
3. ANXIETY AND TENSION  
4. DISCOMFORT  
AND DISABILITY



MERCK SHARP & DOHME  
DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

MEPROBAMATE is the trade name of Merck & Co., Inc.

**mild mucus solvent**  
for nose and throat

**ALKALOL**

write for sample

The Alkalol Company, Taunton 28, Mass.

in seborrheic dermatitis



and many other skin disorders

use new **Vioform®-Hydrocortisone Cream**

antibacterial  
antifungal  
anti-inflammatory  
antipruritic

Tubs of 5 and 20 Gm.  
VIOFORM® (Gedochlorhydroxyquin CIBA)

**C I B A** SUMMIT, N.J.

See page following 34a  
for actual clinical demonstration

## NEWS AND NOTES

—Continued from page 175a

bus trip to Sioux Falls every Saturday after a long week spent in academic studies.

"It helps fill the gap between textbooks and working with real flesh and blood people," was the way one student, James Larson of Sioux Falls, put it. "We have a chance to apply what we've learned during the week."

Dean Hard also expressed the gratitude of the School of Medicine to those cooperating in the training program for USD medical students.

"The cooperating hospitals, the physicians, and above all, the patients, are making a very substantial contribution to the training of the students," he said.

• The Medical School held open house Sunday April 14.

Dean W. L. Hard said this was the first formal display of scientific exhibits and research since the dedication of the new Medicine and Science building in 1954.

Featured were 40 scientific exhibits including a display of ornamental

—Continued on page 182a

## MEDIQUIZ ANSWERS

(from page 61a)

- 1 (A), 2 (D), 3 (D), 4 (A), 5 (B), 6 (A), 7 (D), 8 (D), 9 (C), 10 (B), 11 (A), 12 (B), 13 (D), 14 (B), 15 (C), 16 (C), 17 (B), 18 (A), 19 (D), 20 (A), 21 (C), 22 (D), 23 (A), 24 (C), 25 (A), 26 (C), 27 (A), 28 (B), 29 (A).

*My patients complain that the pain tablets I prescribe are too slow-acting... they usually take about 30 to 40 minutes to work.*

**Why don't you try the new codeine derivative that's combined with APC for faster, longer-lasting pain relief?**

## **CLINICAL COLLOQUY**

*What is it... how fast does it act?*

**It's Percodan®—relieves pain in 5 to 15 minutes, with a single dose lasting 6 hours or longer.**

*How about side effects?*

**No problem. For example, the incidence of constipation with Percodan® is rare.**

*Sounds worth trying — what's the average adult dose?*

**One tablet every 6 hours.  
That's all.**

*Where can I get literature on Percodan?*

**Just ask your Endo detailman or write to:**



**ENDO LABORATORIES**

*Richmond Hill 18, New York*

\*U. S. Pat. 2,628,185. PERCODAN contains salts of dihydrohydroxycodeinone and homatropine, plus APC. May be habit-forming. Available through all pharmacies.

hypnosis or sedation with increased safety

# Medomin®

Unique in chemical configuration, Medomin (heptabarbital Geigy) is metabolized more completely than conventional barbiturates, thus avoiding the danger of cumulation in fatty tissue.

**Dosage:** Hypnotic, 200-400 mg.; sedative, 50-100 mg. two or three times daily.

Scored tablets of 50 mg. (pink), and 200 mg. (white). Literature and samples available on request.

*Geigy, Ardsley, New York*



Geigy



*fire!*

STERANE\* may not help him flush a covey, improve his aim or even help him bag a sitting duck...but STERANE can help steady your rheumatoid patient's hand and improve his position in almost any activity or profession by reducing joint pain, swelling and immobility. Provides prednisolone, the most active systemic corticoid, as white, scored 5 mg. tablets (bottles of 20 and 100) and pink, scored 1 mg. tablets (bottles of 100).



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In very special cases  
a very superior brandy...  
specify

★★★  
**HENNESSY**  
COGNAC BRANDY

84 Proof | Schieffelin & Co., New York

in anogenital pruritus



and many other skin disorders

use new **Vioform®-  
Hydrocortisone  
Cream**

antibacterial  
antifungal  
anti-inflammatory  
antipruritic

Tubes of 5 and 20 Gm.  
VIOFORM® (Dodecylhydroxyquin CIBA)

C I B A SUMMIT, N.J.

See page following 34a  
for actual clinical demonstration

## NEWS AND NOTES

—Continued from page 178a

plants from the department of botany; subject material dealing with pre-medicine from the zoology department and a series of motion pictures in the school of nursing.

Other exhibits which drew considerable interest were research projects on the effects of protein deficiency in rats; the recording of brain waves; Warburg apparatus; diagnostic bacteriology; measurement of the position of atoms in solids; nutritional deficiencies in rats; medical museum of pathological tissues; atomic carbon dioxide analysis on breath; Beckman spectrophotometer.

The public was invited to view these exhibits and tour the Medicine and Science building.

### The Masons Aid Psychiatric Research

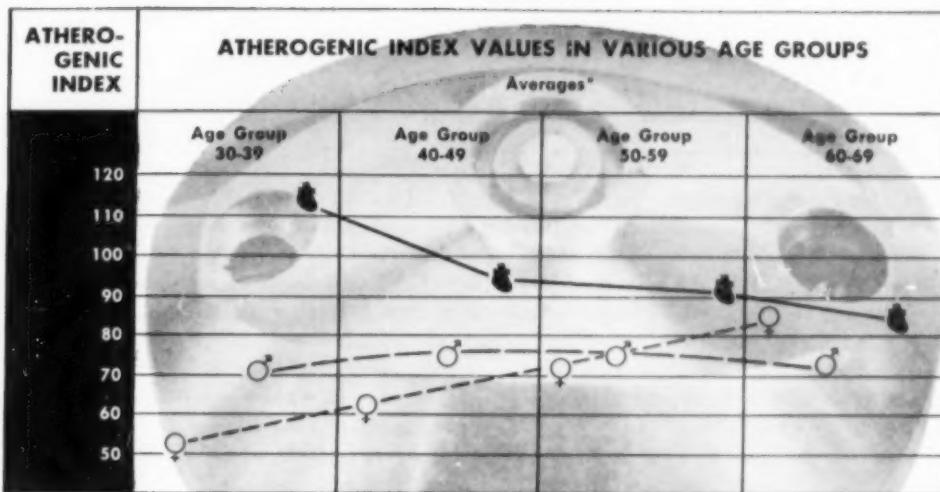
Dr. William Malamud, Professor of Psychiatry at the Boston University School of Medicine, stated that science now has the knowledge with which to develop a program for the prevention of schizophrenia, the most devastating mental disease. He also announced that the Supreme Council, 33rd Degree Scottish Rite Freemasonry, Northern Masonic Jurisdiction, had made a grant of \$100,-

—Continued on page 184a

## WHO IS THIS DOCTOR?

(from page 49a)

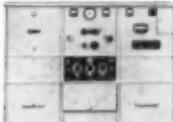
ALBERT SCHWEITZER



\*Averages derived from the following number of individuals in each group.

♀ Normal females:	188	140	80	9
♂ Normal males:	284	473	267	74
Heart Disease	9	91	148	61

Adapted from Golman, J. W., and others: *Mod. Med.* 27:119 (June 13) 1953.



## HOW A DIZZY SPIN SPILLS THE FACTS about coronary disease and atherosclerosis

Here's research in grand style at the terrific speed of 60,000 RPM, with centrifugal fields reaching 300,000 g's in the ultracentrifuge!

The object: identification and quantitation of the giant molecules among the complex lipoproteins of the blood.

Significance: elevation of certain blood lipids has been linked to the accelerated progression of coronary disease; disturbed lipid metabolism is suspected as a cause of atherosclerosis. Blood fractionation by ultracentrifuge has led to the development of atherogenic index values shown above: clinical atherosclerotic trends coincide with the atherogenic index obtained by this method.

Application: the ultracentrifuge is now being used to investigate the influence of dietary supplementation with "RG" Lecithin upon atherogenic index values in patients.

This is but one phase of the vast research on disease states which apparently are associated with lecithin insufficiencies. Lecithin, a constituent of all cells and organs, emulsifier, and lipid transport agent, is the focal point of attention.

Glidden's "RG" Lecithin is the only lecithin made specifically for medically indicated dietary purposes. It consists of 90% natural phosphatides in dry, free-flowing granules refined from soybeans.

"RG" Lecithin is well tolerated and readily utilized by the body. There are no contraindications. It is usually given in amounts of one teaspoonful t.i.d. (7.5 Gm.). (In current clinical research, amounts up to 60 Gm. daily are used.)

A preliminary report on lecithin in health and disease has been published and is available to physicians on request.



## RG® LECITHIN

A dietary phosphatide supplement.

The Glidden Company • Chemurgy Div., 1825 N. Laramie Ave., Chicago 39, Ill.

## NEWS AND NOTES

—Continued from page 182a

000 for the coming year's work on a 22-project schizophrenia research program directed through the National Association for Mental Health. A \$100,000 grant was also received from the Southern Masonic Jurisdiction.

### Cardiovascular Research Training Program

A new one-year term of the unique postgraduate cardiovascular research and training program at the Medical College of Georgia will start on July 1, 1957. It will permit about five post-doctoral students to receive an intensive training in cardiovascular research under the direct supervision of Dr. William

F. Hamilton, President of the American Physiological Society and Professor of Physiology, and Dr. Raymond P. Ahlquist, Professor of Pharmacology. The program includes classical experiments, use of modern instruments in physiology, pharmacology and surgery, utilization of delicate meters to measure the blood flow and, later on, the carrying out of individual research projects by students either working jointly or with faculty members. It is sponsored by the American Heart Association and the National Heart Institute of the US Public Health Service.

### State University of N. Y.

Dr. Harry A. Feldman, of the State University of New York Upstate Medical Center, Syracuse, is directing a research program to gain additional information on the value of mass penicillin administration in epidemics of streptococcal sore throat and scarlatina. The object of the investigation is to find a possible relationship between streptococcal and scarlatina infections which may occur in epidemic form in school children, and the corresponding simultaneous infections occurring in the families of these children. Cultured samples from the throats of cooperating families and from school children are examined for the type of infection. After testing for sensitivity, children receive penicillin tablets for a period of ten days. It is hoped that this procedure will prove to be an effective public health tool. There is reason to believe, also, that the mass administration of penicillin may reduce the incidence of rheumatic fever which may follow infection with certain strains of streptococci.

—Concluded on page 188a

MEDICAL TIMES

in contact dermatitis



and many other skin disorders

use new **Vioform®-Hydrocortisone Cream**

antibacterial  
antifungal  
anti-inflammatory  
antipruritic

Tables of 5 and 20 Gm.  
VIOFORM® (cadoxenhydrocortisone CIBA)

C. I. B. A. SUMMIT, N. J. © 1956 CIBA

See page following 34a  
for actual clinical demonstration



*Double-Quick*  
*Dual-Powered*

*for Renal Pain Relief*

# urised

*Chimedic*

In urinary tract infections, URISED's double-quick and dual-powered formula provides instant pain relief and prolonged effectiveness.

**RELAXES PAINFUL  
MUSCLE SPASM**

*In minutes*—URISED relaxes and relieves painful smooth muscle spasm through the parasympatholytic action of atropine, hyoscyamine and gelsemium. Spasm is quickly overcome, emptying of the bladder facilitated, urinary retention minimized.

**PROVIDES POTENT  
BACTERIOSTATIC**

*In minutes*—URISED's methenamine, salol, methylene blue and benzoic acid police the urinary tract to combat bacterial growth, reduce bacterial and pus-cell content, and encourage healing.

**ACTIVE AGAINST  
ALL SYMPTOMS**

URISED's double-quick antispasmodic and pain-relieving action is coupled with similar swiftness in relieving urgency, dysuria, frequency, and burning.

**SAFE**

URISED may be confidently prescribed for treatment of Cystitis • Pyelitis • Prostatitis • Urethritis • Other Urinary Infections • There is virtually no danger of untoward reactions.

*Send for literature and clinical trial supply of URISED*

**SUPPLIED:** Bottles of  
100, 1000, 2000

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5547 N. Ravenswood Ave., Chicago 40, Illinois

Pacific Coast Branch  
381 Eleventh St., San Francisco, Calif.



## The "DRY TREATMENT" OF VAGINITIS

Comforting to the patient, simple and clean to administer, is the "dry treatment" of vaginal leukorrhea, using—

1. **TRYCOGEN POWDER** insufflation in the office; (optional)
2. **TRYCOGEN INSERTS** for home treatment

In trichomonal, monilia, or senile vaginitis, TRYCOGEN acts to destroy the parasitic invaders, relieve the pruritus, and restore the normal vaginal flora.

TRYCOGEN presents sodium thiosulfate, thymol, oxyquinoline sulfate and oil of wormwood in a base of boric acid, and starch. Non-irritating, non-staining.

Trycogen Inserts, Boxes of 18 and 100 • Trycogen Powder, 25 gram vials. Also in 8-oz. and 16-oz. containers.

**THE ALPHADEN COMPANY**

CHICAGO, ILLINOIS

*Three essential steps  
in establishing correct  
eating patterns:*

SUPERVISION  
BY THE  
PHYSICIAN<sup>1,2,3</sup>

A BALANCED  
EATING PLAN<sup>1,2,3</sup>

SELECTIVE  
MEDICATION<sup>1,2,3</sup>

In the development and  
maintenance of good eating  
habits, there are three  
essentials: support and  
supervision by the physician,  
a balanced eating plan, and  
selective medication.<sup>1,2,3</sup>

**OBEDRIN PROVIDES:**

- Methamphetamine for its anorexigenic and mood-lifting effects.
- Pentobarbital as a balancing agent, to guard against excitation.
- Vitamins B<sub>1</sub> and B<sub>2</sub> plus niacin to supplement the diet.
- Ascorbic acid to aid in the mobilization of tissue fluids.

Since Obedrin contains no artificial bulk, the hazards of impaction are avoided. The 60-10-70 Basic Plan provides for a balanced food intake, with sufficient protein and roughage.

1. Eisfelder, H.W.: Am. Pract. & Dig. Treat. 5:778 (Oct. 1954).
2. Freed, S.C.: G.P. 7:63 (1953).
3. Sherman, R.J.: Medical Times, 82:107 (Feb. 1954).

**Obedrin<sup>®</sup>**  
and the 60-10-70 Basic Plan

**FORMULA:**

Semoxydrine HCl (Methamphetamine HCl) 5 mg.; Pentobarbital 20 mg.; Ascorbic acid 100 mg.; Thiamine mononitrate 0.5 mg.; Riboflavin 1 mg.; Niacin 5 mg.

Write for 60-10-70 Menu pads, weight charts and clinical supply of Obedrin.

**THE S. E. MASSENGILL COMPANY**

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*Sulpho-lac*

*The LOGICAL TREATMENT  
For ACNE*

Samples on request.

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160 E. 127th ST., NEW YORK 35, N.Y.

in contact dermatitis



and many other skin disorders

use new **Vioform®-  
Hydrocortisone  
Cream**

antibacterial  
antifungal  
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antipruritic

Tubes of 5 and 20 Gm.  
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*See page following 34a  
for actual clinical demonstration*

## NEWS AND NOTES

—Concluded from page 184a

### Fourth International Gerontological Congress

Scientists and others experienced in fields associated with various aspects of aging as well as interested laymen will meet at the Fourth International Gerontological Congress to be held July 14-19, 1957, in Merano, Italy. Professor Enrico Greppi is President of the Congress.

## WHAT'S YOUR VERDICT?

—Concluded from page 33a

The Supreme Court of Maine dismissed the complaint against the physician for failure to state a cause of action: "The doctrine of the privilege of protection from tort liability to witnesses for pertinent recitals in judicial proceedings is well established. The privilege includes the certifying physician in lunacy proceedings. Slanderous or libelous words of any witness, physician or not, are prolific of unfortunate results and in the rationale of the rule of privilege such a hazard was weighed. The law deems it prudent to provide against the possibility of a too apprehensive physician depriving a person mentally ill of any speedy care or protection intended to protect the public from a serious menace. Against the likelihood of intentionally false certificates there is a strong deterrent in the criminal law."

Based on decision of  
Supreme Judicial Court of Maine

among nonhormonal antiarthritics...  
unexcelled in  
therapeutic potency

## BUTAZOLIDIN®

In the nonhormonal treatment of arthritis  
and allied disorders no agent surpasses  
**BUTAZOLIDIN** in potency of action.

Its well-established advantages  
include remarkably prompt action,  
broad scope of usefulness,  
and no tendency to development  
of drug tolerance. Being  
nonhormonal, **BUTAZOLIDIN**  
causes no upset of normal  
endocrine balance.

**BUTAZOLIDIN** relieves pain,  
improves function,  
resolves inflammation in:  
**Gouty Arthritis**  
**Rheumatoid Arthritis**  
**Rheumatoid Spondylitis**  
**Painful Shoulder Syndrome**

**BUTAZOLIDIN** being a potent therapeutic  
agent, physicians unfamiliar with its  
use are urged to send for detailed  
literature before instituting therapy.

**BUTAZOLIDIN®** (phenylbutazone  
Geigy), and coated tablets of 100 mg.

**GEIGY**

A Division of Geigy  
New York



Where **LECITHIN**  
is indicated —

# ► GRANULESTIN

in

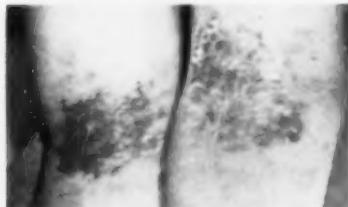
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in atopic eczema



and many other skin disorders  
use new **Vioform®**  
**Hydrocortisone**  
**Cream**

antibacterial  
antifungal  
anti-inflammatory  
antipruritic

Tubes of 5 and 20 Gm.  
VIOFORM® (Isotachidihydroxyquin CIBA)

**C I B A** SUMMIT, N.J.

See page following 34a  
for actual clinical demonstration

## CORONER'S CORNER

—Concluded from page 29a

The following hypotheses were discussed at length by the Coroner and the members of his jury:

(a) Did despondency because of his epilepsy incite the victim to end his own life? If so, a verdict of "death by suicide" would be in order.

(b) Did some prankster sneak up behind him, push him face forward into the water and hold him in that position too long? If such were the case, a verdict of "death by homicide" would be proper.

(c) Did the victim, while undergoing a grand mal seizure fall into the brook, and die as a result of a severe epileptic seizure? If these were the circumstances, a verdict of "death from natural causes" (i.e., disease) would be correct. Practically every citizen of the village at some time or other had seen him undergo an epileptic seizure, none of which had been sufficiently severe to be lethal.

(d) Did the victim fall into the brook during the convulsive phase of one of his grand mal paroxysms and drown because of his unconsciousness during the seizure? Despite the fact that none of his previous seizures had been particularly severe the fall into the water could have been the extra factor which led to his death. This series of events would warrant a verdict of "death by accident."

Either of the four hypotheses was tenable. However, the Coroner's Jury considered that the preponderance of evidence pointed to the last possibility and a verdict of "death by accident" was rendered.

**J.L.C., M.D.**  
Coroner, Carroll, Iowa

effective vulvovaginal therapy

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a detergent...a bactericide and fungicide...  
an antipruritic...an aid to epithelization...  
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One Vacid insert suppository will hold the pH of the vagina at the normal physiologic level for 24 hours. Symptomatic relief is noted usually the first day and progressive improvement continues until Doderlein bacilli replace the infecting organisms — usually within 7-14 days.

*Samples and literature on request...Full details in PDR.*

**The Fesler Co., Inc.** Stamford, Conn.

# NOW...BREAK THE SHACKLES OF BRONCHOSPASM WITH NEW CHOLARACE

(Trademark)

**Formula:** (in the coating) 20 mg. racetephedrine HCl, 27.5 mg. pentobarbital, (in the core) 200 mg. choline theophyllinate (Choledyl®).

**Indications:** Bronchospasm associated with or due to asthma, hay fever, emphysema, bronchitis, bronchiectasis, and to pulmonary infections in general.

**Average dosage:** Adults, 1 tablet every 3 to 4 hours. Children, 10 to 15 years of age, 1 tablet every 4 hours.

**Supply:** 100, 500 tablets

The excellent clinical results obtained with Cholarace are based on the superiority of each of its three components. Choledyl is *better tolerated* than oral aminophylline. Racetephedrine produces *less CNS stimulation* than ephedrine. Pentobarbital has *faster and shorter action* than phenobarbital.



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CNA-2004

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## prevents and relieves skin discomforts

## aids healing

### Superior Antibacterial Action\*



Zones of Growth Inhibition—Agar Plate Tests  
(Zone sizes in millimeters)

TEST ORGANISM	JOHNSON'S MEDICATED POWDER	MEDICATED POWDER A	MEDICATED POWDER B
Proteus vulgaris	5.0	0.0	0.0
Micrococcus pyogenes var. albus	6.5	0.0	0.0
Micrococcus pyogenes var. albus hemolyticus	5.5	0.0	0.0
Micrococcus pyogenes var. aureus hemolyticus	5.5	0.0	0.0
Micrococcus pyogenes var. aureus (Wellcome strain CN491)	6.5	0.0	0.0
Alcaligenes faecalis	10.0	0.0	(3.0) †

† PARTIAL GROWTH INHIBITION

**antibacterial:** twofold antiseptic action curbs primary infections, helps prevent secondary infections.

**anti-urease:** specific inhibition of the enzyme urease plus action against urease-producing bacteria checks formation of ammonia...prevents diaper rash and ammoniacal dermatitis.

**superior absorption:** two highly effective moisture absorbents help keep skin cool and dry...combat maceration, chafing and irritation.

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I. Figurelli, F.A.: Indust. Med. & Surg. 25:376 (Aug.) 1956.

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and many other skin disorders

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antibacterial  
antifungal  
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Tubes of 5 and 20 Gm.  
VIOFORM® (clobetamol-hydrocortisone CIBA)

**C I B A** SUMMIT, N.J. Division of CIBA

*See page following 34a  
for actual clinical demonstration*

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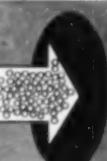
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for chronic  
constipation

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makes it more movable



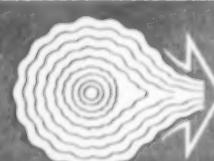
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softens



"bulks it up"



*makes it more movable*

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HB 9

HB 27

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HB 1

HB 12

HB 2

HB 8

HB 1. Jar "Pogena" design 7" high	\$13.65
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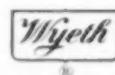
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